TOYOTOMI

Service Manual

MODEL: DCT 35 INV-Si
DCT 50 INV-Si
DCT 70 INV-Si
DCT 100 INV-Si
DCT 140 INV-Si
DCT 170 INV-Si

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Manufacture reserves the right to discontinue, or change at any time, specifications or designs without notices and without incurring obligations.

Part 1
General Information

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1. Model Names of Indoor/Outdoor Units

1.1 Indoor Units

Model name	Dimension (W×H×D) (mm)	Net/Gross weight (kg)	Power supply
DCT 35 INV-Si	920×210×635	25/29	220~240V-1ph-50Hz
DCT 50 INV-Si	920×210×635	26/30	220~240V-1ph-50Hz
DCT 70 INV-Si	920×270×635	30/34	220~240V-1ph-50Hz
DCT 90 INV-Si	1140×270×775	41/46	220~240V-1ph-50Hz
DCT 100 INV-Si	1140×270×775	41/46	220~240V-1ph-50Hz
DCT 140 INV-Si	1200×300×865	49/55	220~240V-1ph-50Hz
DCT 170 INV-Si	1200×300×865	49/55	220~240V-1ph-50Hz
CFT 35 INV-Ri	990×203×660	27/33	220~240V-1ph-50Hz
CFT 50 INV-Ri	990×203×660	29/35	220~240V-1ph-50Hz
CFT 70 INV-Ri	990×203×660	29/35	220~240V-1ph-50Hz
CFT 90 INV-Ri	1280 ×203× 660	37/42	220~240V-1ph-50Hz
CFT 100 INV-Ri	1280 ×203× 660	37/42	220~240V-1ph-50Hz
CFT 140 INV-Ri	1670× 240× 680	52/59	220~240V-1ph-50Hz
CFT 170 INV-Ri	1670× 240× 680	52/59	220~240V-1ph-50Hz
CCT 50 INV-Si	840x230x840	28/34	220~240V-1ph-50Hz
CCT 70 INV-Si	840x230x840	29/36	220~240V-1ph-50Hz
CCT 90 INV-Si	840x300x840	36/41	220~240V-1ph-50Hz
CCT 100 INV-Si	840x300x840	36/41	220~240V-1ph-50Hz
CCT 140 INV-Si	840x300x840	36/41	220~240V-1ph-50Hz
CCT 170 INV-Si	840x300x840	42/50	220~240V-1ph-50Hz
CCT 301 INVi	580x254x580	18/27.5	220~240V-1ph-50Hz
CCT 501 INVi	580x254x580	21/28	220~240V-1ph-50Hz

1.2 Outdoor Units

Model name	Dimension (W×H×D) (mm)	Net/Gross weight (kg)	Power supply
CCT 301 INVo CFT 35 INV-Ro DCT 35 INV-So	761×593×279	39.5/42.5	220~240V-1ph-50Hz
CCT 501 INVo CCT 50 INV-So CFT 50 INV-Ro DCT 50 INV-So	842×695×324	59/63	220~240V-1ph-50Hz
CCT 70 INV-So CFT 70 INV-Ro DCT 70 INV-So	895x862x313	73/76	220~240V-1 Ph-50Hz
CCT 100 INV-So-1 CFT 100 INV-Ro-1 DCT 100 INV-So-1	940×1245×360	106/114	220~240V-1ph-50Hz
CCT 90 INV-So CFT 90 INV-Ro DCT 90 INV-So	990×966×354	92/100	220~240V-1ph-50Hz
CCT 100 INV-So CFT 100 INV-Ro DCT 100 INV-So	990×966×354	87/95	380V-3ph-50Hz
CCT 140 INV-So-1 CFT 140 INV-Ro-1 DCT 140 INV-So-1	940×1245×360	106/114	220~240V-1ph-50Hz

CCT 140 INV-So CFT 140 INV-Ro DCT 140 INV-So	940×1245×360	99/107	380V-3ph-50Hz
CCT 170 INV-So CFT 170 INV-Ro DCT 170 INV-So	940×1245×360	115/121	380V-3ph-50Hz
DHP 170 INV -Ro	940×1245×360	124/130	380~415V-3 Ph-50Hz

2. External Appearance

2.1 Indoor units

Duct

2.2 Outdoor unit

CCT 301 INVo, CFT 35 INV-Ro, DCT 35 INV-So

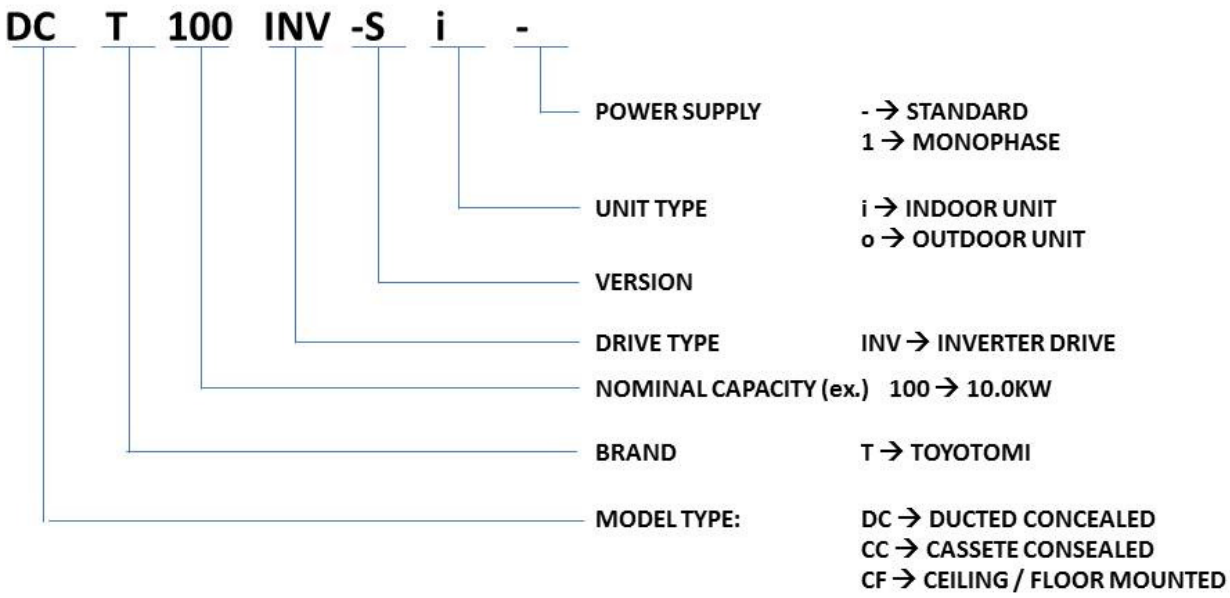
CCT 501 INVo, CCT 50 INV-So,
CFT 50 INV-Ro, DCT 50 INV-So

CCT 70 INV-So, CFT 70 INV-Ro, DCT 70 INV-So

CCT 90 INV-So, CFT 90 INV-Ro, DCT 90 INV-So
CCT 100 INV-So, CFT 100 INV-Ro, DCT 100 INV-So

CCT 100 INV-So-1, CFT 100 INV-Ro-1, DCT 100 INV-So-1
CCT 140 INV-So-1, CFT 140 INV-Ro-1, DCT 140 INV-So-1
CCT 140 INV-So, CFT 140 INV-Ro, DCT 140 INV-So
CCT 170 INV-So, CFT 170 INV-Ro, DCT 170 INV-So
DHP 170 INV -Ro

3. Nomenclature



4. Features

4.1 Universal outdoor unit design

Indoor unit with the same capacity can match with the same outdoor unit.

4.2 High efficiency and energy saving.

Thanks to the DC inverter technology and optimized piping system, the EER and COP of whole series can easily reach A-class.

4.3 Low noise and low starting current.

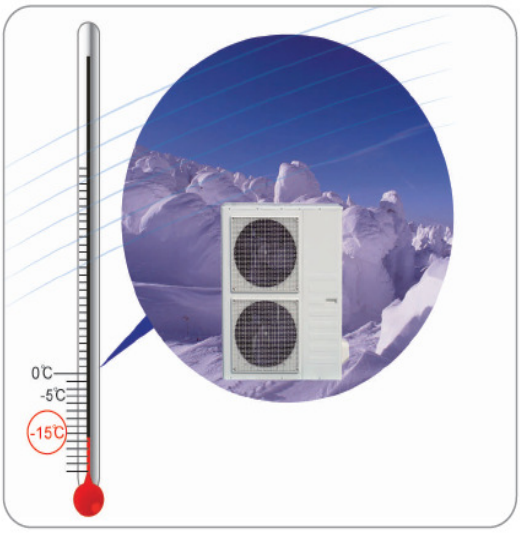
Thanks to the DC inverter technology, the system can work with low noise, and very small starting current.

4.4 Intelligent refrigerant adjustment technology.

Throttle part is made up of capillary and electronic expansion valve (EXV). The outdoor unit can output the most accurate capacity in any condition.

4.5 Working in cooling mode under -15℃.

Outdoor unit built-in with low ambient kit, it can control the outdoor unit's fan and cooling can be performed throughout the year for computer rooms, banquet halls, etc. Wide operation range covers outdoor temperatures as low as -15℃ for cooling.



4.6 Indoor & outdoor unit's power supply is separate.

4.7 All indoor units have network control function.

4.8 All indoor units have Auto-restart function.

Part 2
Indoor Units

1. Duct Type.....

Duct Type

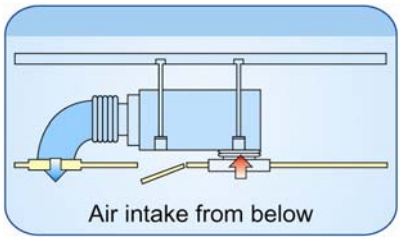
1. Features .....
2. Specifications .....
3. Dimensions (Unit: mm) .....
4. Service Space .....
5. Wiring Diagrams .....
6. Air Velocity and Temperature Distributions .....
7. Capacity Tables .....
8. Electric Characteristics .....
9. Sound Levels .....
Accessories .....

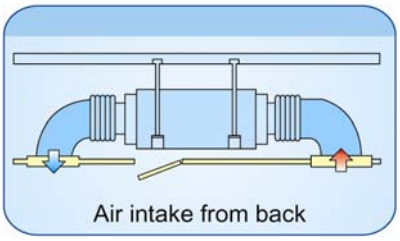
1. Features

● **New structure design.**

● **Built-in drain pump.**

● **Two air intake ways: from below or rear (standard).**





● **Wired controller is standard.**

● **Four speeds indoor unit.**

● **Fresh air inlet hole is reserved.**

● **Standard aluminum alloy filter, which is more convenient to replace.**

2. Specifications

Model	Indoor	Model name	**DCT 35 INV-Si**	**DCT 50 INV-Si**
		Code	220070100120	220070201170
		Power supply	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz
	Outdoor	Model name	**DCT 35 INV-So**	**DCT 50 INV-So**
		Code	220075100071	220075200340
		Power supply	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz
Cooling	Capacity(Max.-Rated-Min.)	kW	3.84 -3.52 -1.40	6.36 -5.28-2.12
	Input(Max.-Rated-Min.)	kW	1.42 -1.075-0.47	2.28 -1.62-0.76
	Current(Max.-Rated-Min.)	A	6.46-4.79-2.15	10.41-7.46-2.52
	EER		3.27	3.25
Heating	Capacity(Max.-Rated-Min.)	kW	4.54-3.81-1.51	7.19-5.86-2.40
	Input(Max.-Rated-Min.)	kW	1.46-1.03-0.49	2.33-1.60-0.78
	Current(Max.-Rated-Min.)	A	6.70-5.58-2.23	10.64-8.87-3.55
	COP		3.7	3.66
Max. input consumption		W	2250	2400
Max. current		A	12	13.1
Compressor	Model		DA108X1C-20FZ3	C-6RVN93H0V
	Type		Rotary DC Inverter	Rotary DC Inverter
	Brand		Midea-Toshiba	SANYO(Shen yang)
	Capacity	Btu/h	10918.4	19278
	Input	W	855	1470
	Rated current(RLA)	A	5.3	8.96
	Thermal protector		_	_
	Capacitor	uF	_	_
	Refrigerant oil	ml	ESTER OIL VG74, 480	FV 50S, 350
Indoor fan motor	Model		YSK25-4P	YSK68-4P
	Type		AC Motor	AC Motor
	Input	W	62	107
	Capacitor	uF	2uF/450V	3.5uF/450V
	Speed(hi/mi/lo)	r/min	830/720/660/580	1150/1020/800/700
Indoor coil	a.Number of rows		2	3
	b.Tube pitch(a)x row pitch(b)	mm	21×13.37	21×13.37
	c.Fin spacing	mm	1.5	1.5
	d.Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	e.Tube outside dia.and type	mm	Φ7 Inner grooved copper tube	Φ7 Inner grooved copper tube
	f.Coil length× height×width	mm	735×252×26.74	735×252×40.11
	g.Number of circuits		3	4
Indoor air flow (Hi/Mi/Lo) (0 Pa)		m^3/h	913/782/702	1205/1000/945
Indoor external static pressure (Hi)		Pa	30	30
Sound level (sound pressure)		dB(A)	36.9 /30.2/26.4	44.0/35.9/32.8
Indoor unit	Dimension (W×H×D)	mm	920×210×635	920×210×635
	Packing (W×H×D)	mm	1100×270×695	1100×270×695
	Net/Gross weight	Kg	25/29	26/30
Outdoor fan motor	Model		YDK24-6G (×1)	YDK53-6Y (×1)
	Type		AC Motor	AC Motor

	Input	W	67/48	129/86
	Capacitor	uF	2.5uF/450V	3uF/450V
	Speed	r/min	800/550	770/560
Outdoor coil	Number of rows		2	2
	Tube pitch(a)× row pitch(b)	mm	25.4×22	22×19.05
	Fin spacing	mm	1.4	1.4
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ9.53 Inner grooved copper tube	Φ7.94 Inner grooved copper tube
	Coil length×height×width	mm	654×558.8×44	778×660×38.1
	Number of circuits		2	2
Outdoor air flow(Hi/Low)		m^3/h	2500/1600	2570/2300
Sound level(sound pressure)(Hi/Low)		dB(A)	48/44	51/46
Outdoor unit	Dimension (W×H×D)	mm	761×593×279	842×695×324
	Packing (W×H×D)	mm	887×655×355	965x752x399
	Net/Gross weight	kg	39.5/42.5	59/63
Refrigerant	Type		R410A	R410A
	Charged volume	g	1400	1600
Throttle type			Capillary	Electronic expansion valve & Capillary
Design pressure(Hi/Low)		MPa	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	6.4/12.7	6.4/12.7
	Max. refrigerant pipe length	m	10	25
	Max. difference in level(Outdoor is up)	m	6	12
	Max. difference in level (Outdoor is down)	m	5	9
Connection wiring	Power wiring (Indoor)	mm^2	3×1.5	3×1.0
	Power wiring (Outdoor)	mm^2	_	3×2.5
	Signal wiring	mm^2	4×1.5	3-core shield wire 3×0.5
Drainage water pipe dia. (Indoor)		mm	Φ25	Φ25
Wired controller (Indoor) (standard)			KJR-10B/DP(T)-E	KJR-10B/DP(T)-E
Operation temp. (Indoor)		℃	17-30	17-30
Ambient temp. (Outdoor)		℃	Cooling：0~43(*) Heating：-15~24	Cooling：-15~43(*) Heating：-15~24

(*) Optional Low Ambient Kit included. Cooling operation range without it: 7 to 43°C

Model	Indoor	Model name	**DCT 70 INV-Si**	**DCT 90 INV-Si**
		Code	220070301180	220070401060
		Power supply	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz
	Outdoor	Model name	**DCT 70 INV-So**	**DCT 90 INV-So**
		Code	220075301070	220075401041
		Power supply	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz
Cooling	Capacity(Max.-Rated-Min.)	kW	8.36- 7.03-2.79	10.81- 9.00-3.61
	Input(Max.-Rated-Min.)	kW	3.01-2.17-1.00	3.98-2.79- 1.33
	Current(Max.-Rated-Min.)	A	13.76-10.02-4.59	18.22-12.77-6.07
	EER		3.24	3.23
Heating	Capacity(Max.-Rated-Min.)	kW	9.64-7.62-3.21	12.16-9.50-4.05
	Input(Max.-Rated-Min.)	kW	3.13-2.09-1.04	3.92-2.62-1.31
	Current(Max.-Rated-Min.)	A	14.34-11.95-4.78	17.94-14.95-5.98
	COP		3.64	3.63
Max. input consumption		W	3250	4600
Max. current		A	15.48	23
Compressor	Model		ATL165SD-C9AU	TNB220FLBM1
	Type		Rotary DC Inverter	Rotary DC Inverter
	Brand		HITACHI(Shang hai)	MITSUBISHI ELECTRIC
	Capacity	Btu/h	15525	24328
	Input	W	1530	2200
	Rated current(RLA)	A	10.4	9.7
	Thermal protector		_	_
	Capacitor	uF	_	_
	Refrigerant oil	ml	68HES-H, 880	MEL 56, 670
Indoor fan motor	Model		YSK74-4P	YSK100-4P
	Type		AC Motor	AC Motor
	Input	W	163	227
	Capacitor	uF	3.5uF/450V	10uF±5% 450V
	Speed(hi/mi/lo)	r/min	1000/850/750/670	935/810/700/620
Indoor coil	a.Number of rows		4	4
	b.Tube pitch(a)x row pitch(b)	mm	21×13.37	21×13.37
	c.Fin spacing	mm	1.5	1.5
	d.Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	e.Tube outside dia.and type	mm	Φ7 Inner grooved copper tube	Φ7 Inner grooved copper tube
	f.Coil length× height×width	mm	735×252×53.48	955×336×53.48
	g.Number of circuits		6	8
Indoor air flow (Hi/Mi/Lo) (0 Pa)		m^3/h	1800/1500/1200	2200/1918/1800
Indoor external static pressure (Hi)		Pa	30	50
Sound level (sound pressure)		dB(A)	45.1/43.2/40.9	46.1/44.0/42.2
Indoor unit	Dimension (W×H×D)	mm	920×270×635	1140×270×775
	Packing (W×H×D)	mm	1100×330×695	1320×310×835
	Net/Gross weight	Kg	30/34	41/46
Outdoor fan motor	Model		YDK53-6Z (×1)	YDK250-6E (×1)
	Type		AC Motor	AC Motor

	Input	W	141.5/92	307/194
	Capacitor	uF	3uF/450V	10uF±5% 450V
	Speed	r/min	815/550	740/530
Outdoor coil	Number of rows		2	2
	Tube pitch(a)× row pitch(b)	mm	25.4×22	25.4×22
	Fin spacing	mm	1.5	1.7
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ9.53 Inner grooved copper tube	Φ9.53 Inner grooved copper tube
	Coil length×height×width	mm	758x813x44	876x914.4x44
	Number of circuits		2	4
Outdoor air flow(Hi/Low)		m^3/h	3200/2850	5000/4800
Sound level(sound pressure)(Hi/Low)		dB(A)	53/48	55/50
Outdoor unit	Dimension (W×H×D)	mm	895×862×313	990×966×354
	Packing (W×H×D)	mm	1043×915×395	1120×1100×435
	Net/Gross weight	kg	73/76	92/100
Refrigerant	Type		R410A	R410A
	Charged volume	g	2300	3350
Throttle type			Electronic expansion valve	Electronic expansion valve & Capillary
Design pressure(Hi/Low)		MPa	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	9.5/15.9	9.5/15.9
	Max. refrigerant pipe length	m	25	25
	Max. difference in level(Outdoor is up)	m	12	15
	Max. difference in level (Outdoor is down)	m	9	9
Connection wiring	Power wiring (Indoor)	mm^2	3×1.0	3×1.0
	Power wiring (Outdoor)	mm^2	3×2.5	3×2.5
	Signal wiring	mm^2	3-core shield wire 3×0.5	3-core shield wire 3×0.5
Drainage water pipe dia. (Indoor)		mm	Φ25	Φ25
Wired controller (Indoor) (standard)			KJR-10B/DP(T)-E	KJR-10B/DP(T)-E
Operation temp. (Indoor)		℃	17-30	17-30
Ambient temp. (Outdoor)		℃	Cooling：-15~43(*) Heating：-15~24	Cooling：-15~43(*) Heating：-15~24

(*) Optional Low Ambient Kit included. Cooling operation range without it: 7 to 43°C

Model	Indoor	Model name	**DCT 100 INV-Si-1**	**DCT 100 INV-Si**
		Code	220070501330	220070501330
		Power supply	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz
	Outdoor	Model name	**DCT 100 INV-So-1**	**DCT 100 INV-So**
		Code	220075500651	220075500920
		Power supply	220~240V-1 Ph-50Hz	380V~3 Ph-50Hz
Cooling	Capacity(Max.-Rated-Min.)	kW	12.60-10.5-4.20	12.34-10.55-4.12
	Input(Max.-Rated-Min.)	kW	4.42-3.26-1.47	4.39-3.26-1.45
	Current(Max.-Rated-Min.)	A	20.23-14.92-6.74	6.72-4.79-2.10
	EER		3.22	3.23
Heating	Capacity(Max.-Rated-Min.)	kW	15.06-12.00-5.02	15.06-11.72-5.02
	Input(Max.-Rated-Min.)	kW	4.87-3.31-1.62	4.87-3.23-1.62
	Current(Max.-Rated-Min.)	A	22.31-18.59-7.44	7.46-4.88-2.35
	COP		3.63	3.63
Max. input consumption		W	5500	5000
Max. current		A	25	7.5
Compressor	Model		TNB306FPGM	TNB306FPNM
	Type		Rotary DC Inverter	Rotary DC Inverter
	Brand		MITSUBISHI ELECTRIC	MITSUBISHI ELECTRIC
	Capacity	Btu/h	33642	33710
	Input	W	3080	3010
	Rated current(RLA)	A	13.5	9.3
	Thermal protector		-	-
	Capacitor	uF	-	-
	Refrigerant oil	ml	FV50S, 870	FV50S, 870
Indoor fan motor	Model		YSK140-4P	YSK140-4P
	Type		AC Motor	AC Motor
	Input	W	291	291
	Capacitor	uF	10uF±5% 450V	10uF±5% 450V
	Speed(hi/mi/lo)	r/min	1070/960/790/710	1070/960/790/710
Indoor coil	a.Number of rows		4	4
	b.Tube pitch(a)x row pitch(b)	mm	21×13.37	21×13.37
	c.Fin spacing	mm	1.5	1.5
	d.Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	e.Tube outside dia.and type	mm	Φ7 Inner grooved copper tube	Φ7 Inner grooved copper tube
	f.Coil length× height×width	mm	955×336×53.48	955×336×53.48
	g.Number of circuits		8	8
Indoor air flow (Hi/Mi/Lo) (0 Pa)		m^3/h	2200/1920/1800	2200/1920/1800
Indoor external static pressure (Hi)		Pa	80	80
Sound level (sound pressure)		dB(A)	46.1/44.0/42.2	46.1/44.0/42.2
Indoor unit	Dimension (W×H×D)	mm	1140×270×775	1140×270×775
	Packing (W×H×D)	mm	1320×310×835	1320×310×835
	Net/Gross weight	Kg	41/46	41/46
Outdoor fan motor	Model		YDK100-6A(×2)	YDK250-6E(×1)
	Type		AC Motor	AC Motor
	Input	W	185/120	307/194

	Capacitor	uF	3.5uF/450V	10uF±5% 450V
	Speed	r/min	860/610	740/530
Outdoor coil	Number of rows		2	2
	Tube pitch(a)× row pitch(b)	mm	25.4×22	25.4×22
	Fin spacing	mm	1.5	1.7
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ9.53 Inner grooved copper tube	Φ9.53 Inner grooved copper tube
	Coil length×height×width	mm	887×1220×44	876×914.4×44
	Number of circuits		8	4
Outdoor air flow(Hi/Low)		m^3/h	6000/5800	5000/4800
Sound level(sound pressure)(Hi/Low)		dB(A)	57/52	55/50
Outdoor unit	Dimension (W×H×D)	mm	940×1245×360	990×966×354
	Packing (W×H×D)	mm	1058×1380×438	1120×1100×435
	Net/Gross weight	kg	106/114	87/95
Refrigerant	Type		R410A	R410A
	Charged volume	g	4100	2900
Throttle type			Electronic expansion valve & Capillary	Electronic expansion valve & Capillary
Design pressure(Hi/Low)		MPa	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	9.5/15.9	9.5/15.9
	Max. refrigerant pipe length	m	30	30
	Max. difference in level(Outdoor is up)	m	20	20
	Max. difference in level (Outdoor is down)	m	12	12
Connection wiring	Power wiring (Indoor)	mm^2	3×1.0	3×1.0
	Power wiring (Outdoor)	mm^2	3×2.5	5×2.5
	Signal wiring	mm^2	3-core shield wire 3×0.5	3-core shield wire 3×0.5
Drainage water pipe dia. (Indoor)		mm	Φ25	Φ25
Wired controller (Indoor) (standard)			KJR-10B/DP(T)-E	KJR-10B/DP(T)-E
Operation temp. (Indoor)		℃	17-30	17-30
Ambient temp. (Outdoor)		℃	Cooling：-15~43(*) Heating：-15~24	Cooling：-15~43(*) Heating：-15~24

(*) Optional Low Ambient Kit included. Cooling operation range without it: 7 to 43°C

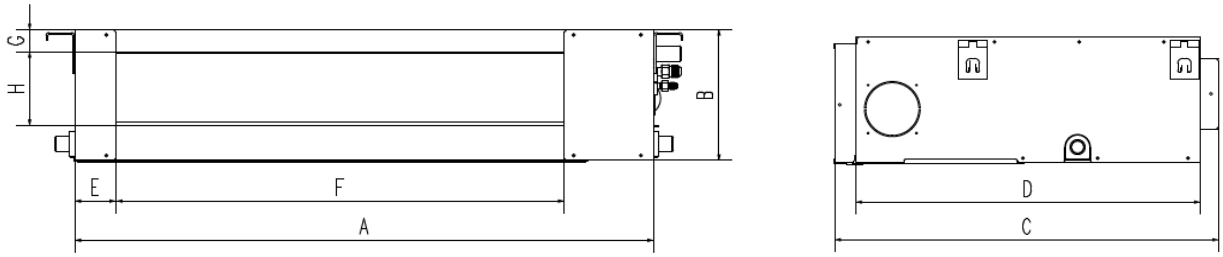
Model	Indoor	Model name	**DCT 140 INV-Si**	**DCT 140 INV-Si**	**DCT 170 INV-Si**
		Code	220070701290	220070701290	220070801420
		Power supply	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz	220~240V-1 Ph-50Hz
	Outdoor	Model name	**DCT 140 INV-So-1**	**DCT 140 INV-So**	**DCT 170 INV-So**
		Code	220075700341	220075700690	220075800161
		Power supply	220~240V-1 Ph-50Hz	380V~3 Ph-50Hz	380V~3 Ph-50Hz
Cooling	Capacity(Max.-Rated-Min.)	kW	14.86 -14.00-4.95	15.14-14.06-5.05	17.96-17.58-4.21
	Input(Max.-Rated-Min.)	kW	5.44-4.35-1.81	5.53-4.36-1.84	6.22-5.47-2.07
	Current(Max.-Rated-Min.)	A	24.90-19.91-8.3	7.9-6.30-2.65	9.54-7.68-2.97
	EER		3.22	3.22	3.21
Heating	Capacity(Max.-Rated-Min.)	kW	17.04-15.00-5.68	17.58-15.24-5.86	20.48-20.22-6.72
	Input(Max.-Rated-Min.)	kW	5.53-4.16-1.84	5.71-4.22-1.90	6.59-5.67-2.20
	Current(Max.-Rated-Min.)	A	25.32-21.1-8.44	8.15-6.03-2.72	10.1-8.03-3.15
	COP		3.61	3.61	3.61
Max. input consumption		W	6000	5500	7500
Max. current		A	28	7.8	11.5
Compressor	Model		TNB306FPGM	TNB306FPNM	ANB42FBEMT
	Type		Rotary DC Inverter	Rotary DC Inverter	Scroll DC Inverter
	Brand		MITSUBISHI ELECTRIC	MITSUBISHI ELECTRIC	SIAM
	Capacity	Btu/h	33642	33710	47440
	Input	W	3080	3010	4160
	Rated current(RLA)	A	13.5	9.3	15.2
	Thermal protector		-	-	-
	Capacitor	uF	-	-	-
	Refrigerant oil	ml	FV50S, 870	FV50S, 870	MEL 56, 1700
Indoor fan motor	Model		YSK170-4P	YSK170-4P	YSK180-4P
	Type		AC Motor	AC Motor	AC Motor
	Input	W	356	356	355
	Capacitor	uF	10uF±5% 450V	10uF±5% 450V	10uF±5% 450V
	Speed(hi/mi/lo)	r/min	1070/900/750/650	1070/900/750/650	1080/960/830/710
Indoor coil	a.Number of rows		4	4	4
	b.Tube pitch(a)x row pitch(b)	mm	21×13.37	21×13.37	21×13.37
	c.Fin spacing	mm	1.5	1.5	1.5
	d.Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	e.Tube outside dia.and type	mm	Φ7 Inner grooved copper tube	Φ7 Inner grooved copper tube	Φ7 Inner grooved copper tube
	f.Coil length× height×width	mm	1030×378×53.48	1030×378×53.48	1030×378×53.48
	g.Number of circuits		8	8	8
Indoor air flow (Hi/Mi/Lo) (0 Pa)		m^3/h	2812/2458/2090	2812/2458/2090	2890/2465/2138
Indoor external static pressure (Hi)		Pa	100	100	100
Sound level (sound pressure)		dB(A)	47.1/45.3/42.9	47.1/45.3/42.9	47.3/45.2/43.1
Indoor unit	Dimension (W×H×D)	mm	1200×300×865	1200×300×865	1200×300×865
	Packing (W×H×D)	mm	1405×365×935	1405×365×935	1405×365×935
	Net/Gross weight	Kg	49/55	49/55	49/55
Outdoor fan motor	Model		YDK100-6A(×2)	YDK100-6A(×2)	YDK100-6A(×2)
	Type		AC Motor	AC Motor	AC Motor

	Input	W	185/120	185/120	185/120
	Capacitor	uF	3.5uF/450V	3.5uF/450V	3.5uF/450V
	Speed	r/min	860/610	860/610	860/610
Outdoor coil	Number of rows		2	2	2
	Tube pitch(a)× row pitch(b)	mm	25.4×22	25.4×22	25.4×22
	Fin spacing	mm	1.5	1.8	1.8
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ9.53 Inner grooved copper tube	Φ9.53 Inner grooved copper tube	Φ9.53 Inner grooved copper tube
	Coil length×height×width	mm	887×1220×44	887×1220×44	887×1220×44
	Number of circuits		8	8	4
Outdoor air flow(Hi/Low)		m^3/h	6000/5800	6000/5800	6000/5800
Sound level(sound pressure)(Hi/Low)		dB(A)	59/54	59/54	59/54
Outdoor unit	Dimension (W×H×D)	mm	940×1245×360	940×1245×360	940×1245×360
	Packing (W×H×D)	mm	1058×1380×438	1058×1380×438	1058×1380×438
	Net/Gross weight	kg	106/114	99/107	115/121
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	g	4450	3600	3850
Throttle type			Electronic expansion valve & Capillary	Electronic expansion valve & Capillary	Electronic expansion valve & Capillary
Design pressure(Hi/Low)		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	9.5/15.9	9.5/15.9	9.5/15.9
	Max. refrigerant pipe length	m	50	50	50
	Max. difference in level(Outdoor is up)	m	25	30	30
	Max. difference in level (Outdoor is down)	m	20	20	20
Connection wiring	Power wiring (Indoor)	mm^2	3×1.0	3×1.0	3×1.0
	Power wiring (Outdoor)	mm^2	3×2.5	5×2.5	5×2.5
	Signal wiring	mm^2	3-core shield wire 3×0.5	3-core shield wire 3×0.5	3-core shield wire 3×0.5
Drainage water pipe dia. (Indoor)		mm	Φ25	Φ25	Φ25
Wired controller (Indoor) (standard)			KJR-10B/DP(T)-E	KJR-10B/DP(T)-E	KJR-10B/DP(T)-E
Operation temp. (Indoor)		℃	17-30	17-30	17-30
Ambient temp. (Outdoor)		℃	Cooling：-15~43(*) Heating：-15~24	Cooling：-15~43(*) Heating：-15~24	Cooling：-15~43(*) Heating：-15~24

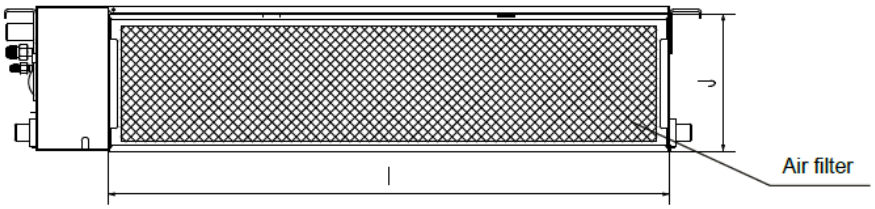
(*) Optional Low Ambient Kit included. Cooling operation range without it: 7 to 43°C

3. Dimensions (Unit: mm)

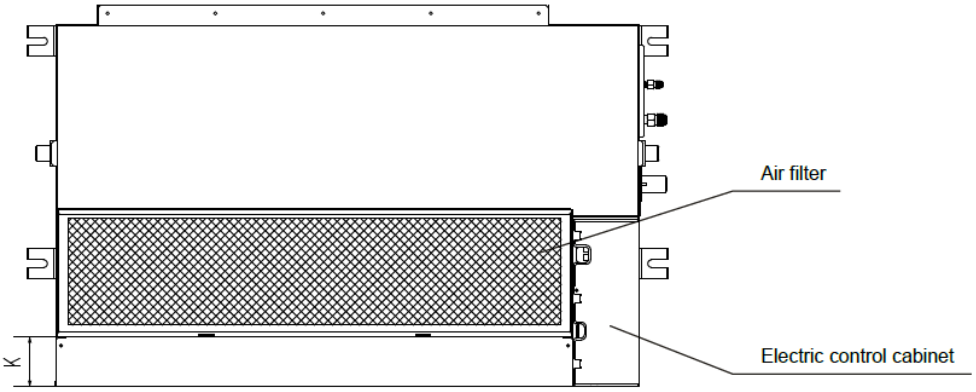
Outline dimension and air outlet size



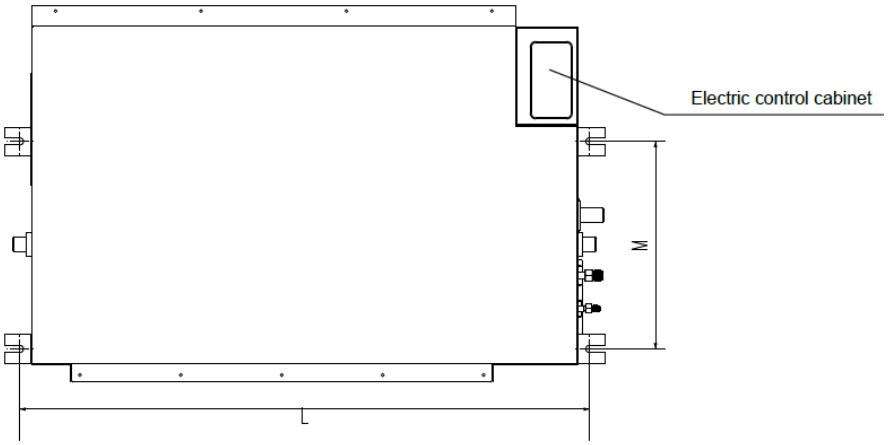
Air return size



Position size of descensional ventilation opening

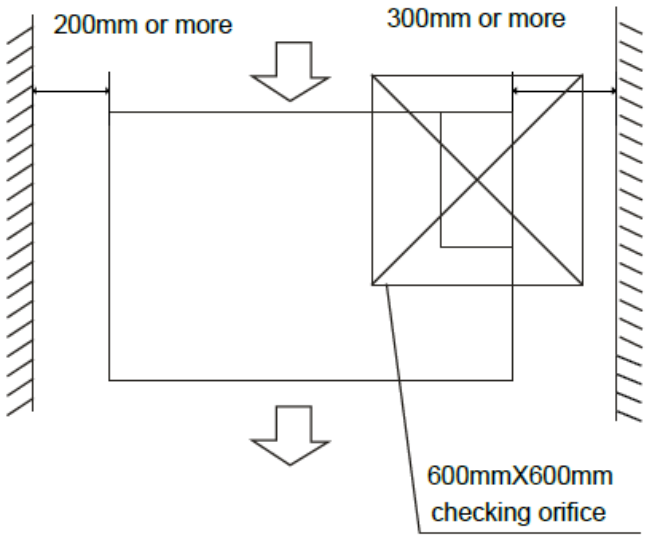


Size of mounted lug



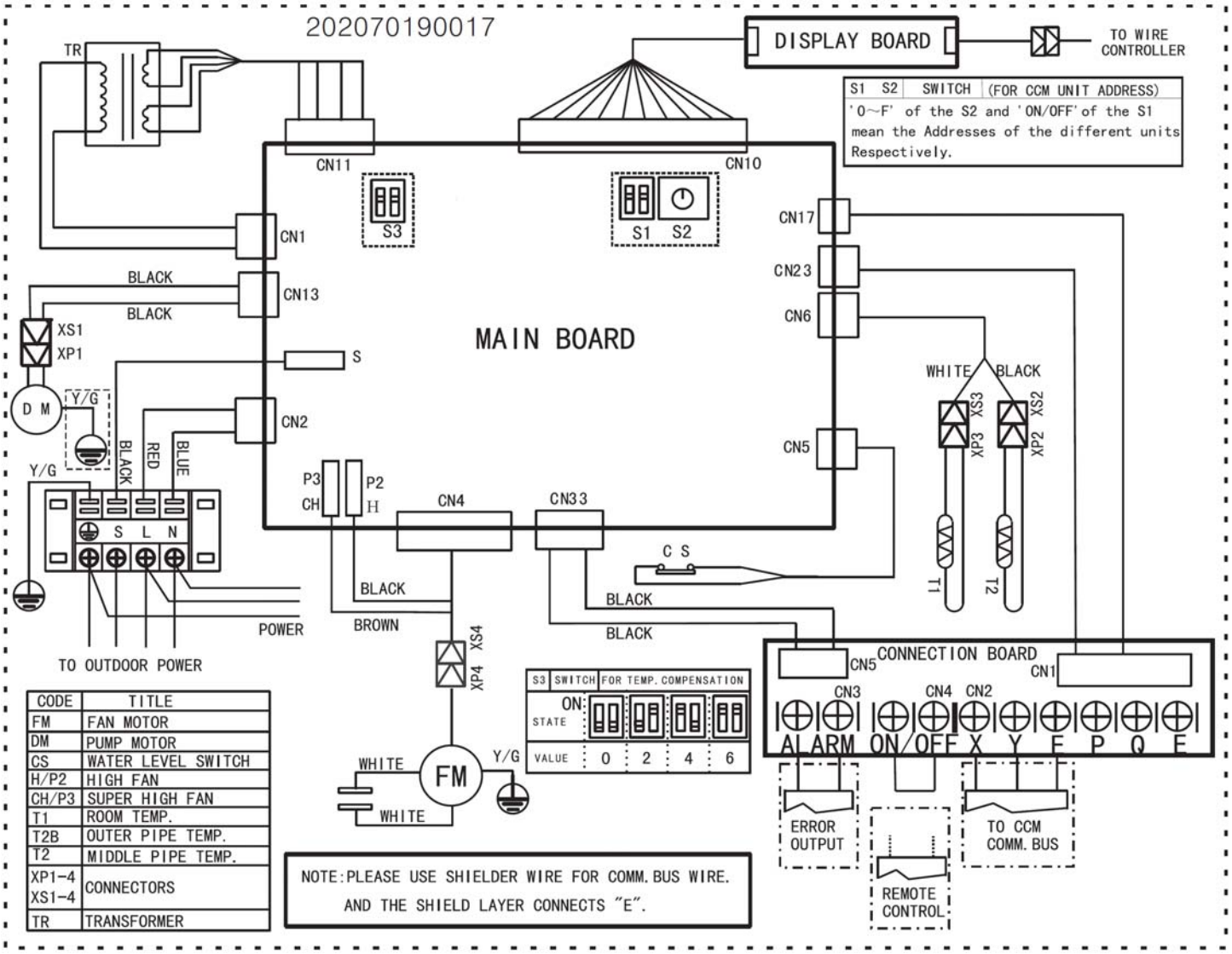
	Outline dimension				Air outlet size				Air return size			Size of mounted lug	
	A	B	C	D	E	F	G	H	I	J	K	L	M
12~18	920	210	635	570	65	713	35	119	815	200	80	960	350
24	920	270	635	570	65	713	35	179	815	260	20	960	350
30~36	1140	270	775	710	65	933	35	179	1035	260	20	1180	490
48~60	1200	300	865	800	80	968	40	204	1094	288	45	1240	500

4. Service Space



5. Wiring Diagrams

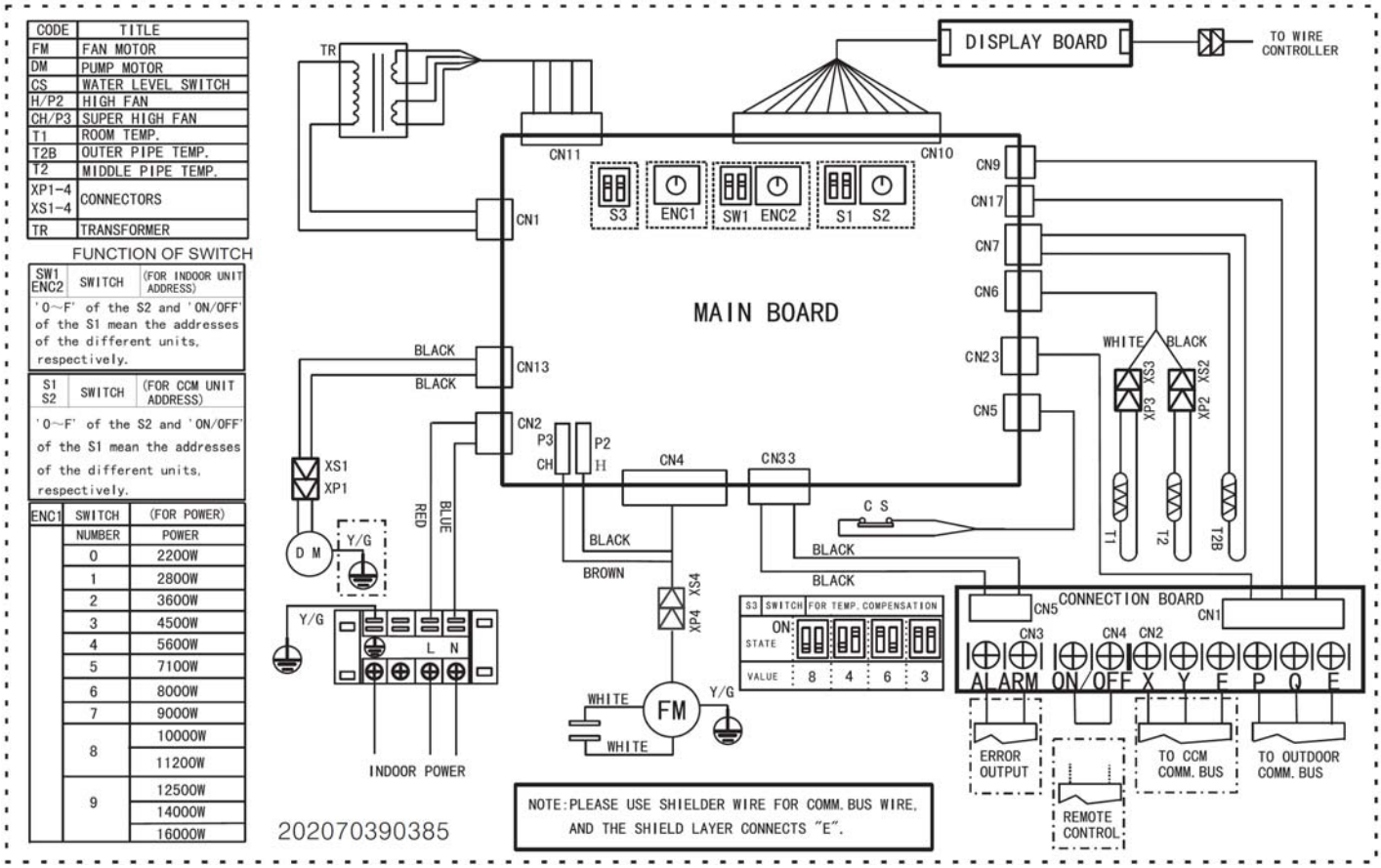
DCT 35 INV-Si



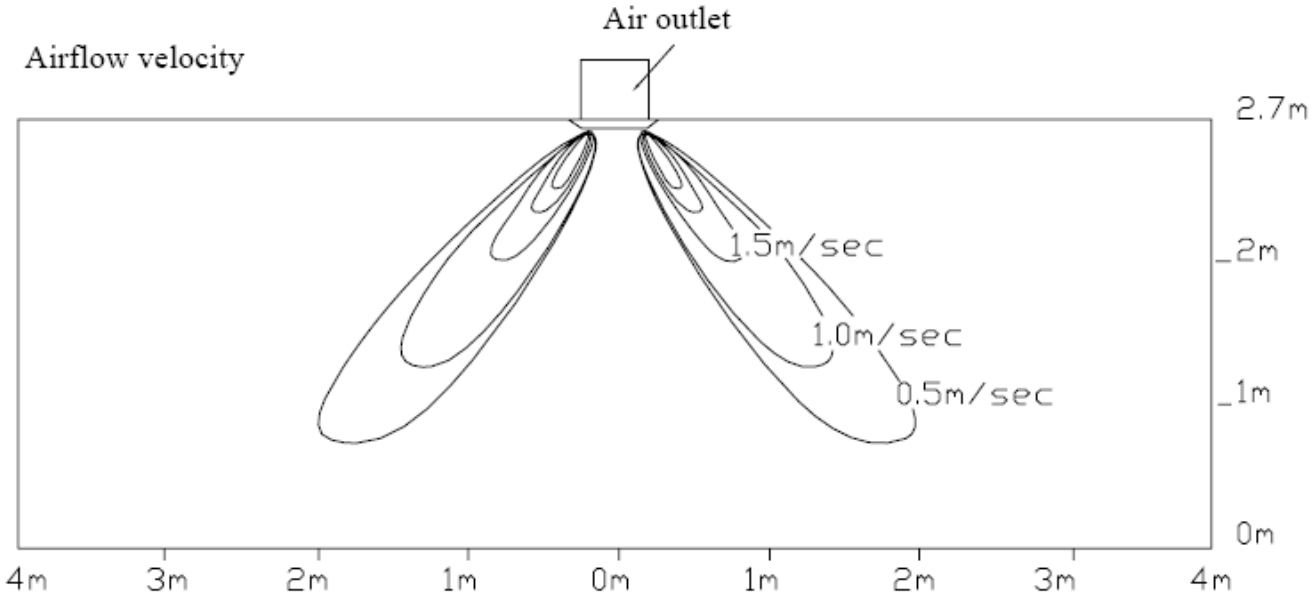
CODE	TITLE
FM	FAN MOTOR
DM	PUMP MOTOR
CS	WATER LEVEL SWITCH
H/P2	HIGH FAN
CH/P3	SUPER HIGH FAN
T1	ROOM TEMP.
T2B	OUTER PIPE TEMP.
T2	MIDDLE PIPE TEMP.
XP1-4 XS1-4	CONNECTORS
TR	TRANSFORMER

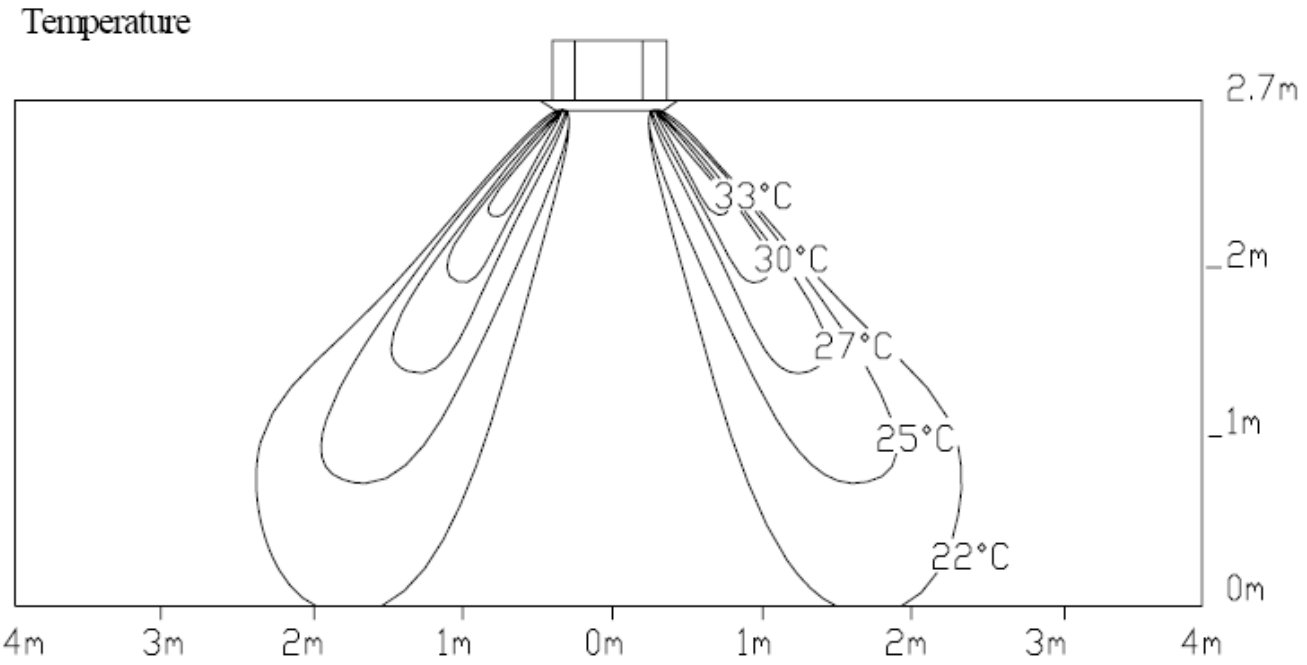
DCT 50 INV-Si DCT 70 INV-Si DCT 90 INV-Si

DCT 100 INV-Si DCT 140 INV-Si DCT 170 INV-Si



6. Air Velocity and Temperature Distributions





7. Capacity Tables

DCT 35 INV-Si

Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	2.22	0.33	2.72	0.41	3.22	0.49	3.52	0.53	3.68	0.58	3.76	0.58	3.83	0.58
12.00	2.22	0.34	2.72	0.42	3.22	0.50	3.52	0.54	3.68	0.59	3.76	0.59	3.83	0.59
14.00	2.22	0.34	2.72	0.43	3.22	0.51	3.52	0.55	3.68	0.60	3.76	0.60	3.83	0.61
16.00	2.22	0.35	2.72	0.43	3.22	0.52	3.52	0.56	3.68	0.61	3.76	0.61	3.83	0.62
18.00	2.22	0.35	2.72	0.44	3.22	0.53	3.52	0.57	3.68	0.62	3.76	0.62	3.83	0.63
19.00	2.22	0.36	2.72	0.45	3.22	0.54	3.52	0.58	3.68	0.63	3.76	0.63	3.83	0.64
21.00	2.22	0.39	2.72	0.48	3.22	0.58	3.52	0.63	3.68	0.68	3.76	0.68	3.83	0.68
23.00	2.22	0.41	2.72	0.52	3.22	0.62	3.52	0.67	3.68	0.72	3.76	0.73	3.83	0.73
25.00	2.22	0.44	2.72	0.55	3.22	0.66	3.52	0.72	3.68	0.77	3.76	0.78	3.83	0.78
27.00	2.22	0.47	2.72	0.59	3.22	0.71	3.52	0.77	3.68	0.83	3.76	0.83	3.83	0.84
29.00	2.22	0.51	2.72	0.63	3.22	0.76	3.52	0.82	3.68	0.88	3.76	0.89	3.83	0.89
31.00	2.22	0.54	2.72	0.67	3.22	0.81	3.52	0.87	3.68	0.94	3.76	0.94	3.83	0.95
33.00	2.22	0.58	2.72	0.72	3.22	0.86	3.52	0.97	3.68	1.00	3.76	1.01	3.83	1.02
35.00	2.22	0.61	2.72	0.76	3.22	0.91	3.52	1.09	3.68	1.07	3.76	1.07	3.83	1.08
37.00	2.22	0.65	2.72	0.81	3.22	0.97	3.52	1.11	3.68	1.14	3.76	1.14	3.83	1.15
39.00	2.22	0.65	2.72	0.81	3.22	0.98	3.52	1.13	3.68	1.14	3.76	1.14	3.83	1.15
41.00	2.22	0.66	2.72	0.82	3.22	0.98	3.52	1.14	3.68	1.15	3.76	1.15	3.83	1.16
43.00	2.22	0.66	2.72	0.82	3.22	0.98	3.52	1.14	3.68	1.15	3.76	1.15	3.83	1.17

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	2.54	0.88	2.54	0.90	2.54	0.92	2.44	0.88	2.34	0.84	2.14	0.76
-12.6	-13	2.68	0.90	2.68	0.92	2.68	0.94	2.57	0.90	2.47	0.86	2.26	0.77
-10.5	-11	2.82	0.91	2.82	0.93	2.82	0.95	2.71	0.91	2.60	0.87	2.37	0.79
-9.5	-10	2.89	0.92	2.89	0.94	2.89	0.96	2.77	0.92	2.66	0.88	2.43	0.79
-8.5	-9.1	2.96	0.93	2.96	0.95	2.96	0.97	2.84	0.93	2.72	0.88	2.49	0.80
-7	-7.6	3.06	0.94	3.06	0.96	3.06	0.98	2.94	0.94	2.82	0.89	2.57	0.81
-5	-5.6	3.19	0.95	3.19	0.97	3.19	1.00	3.07	0.95	2.94	0.91	2.69	0.82
-3	-3.7	3.33	0.97	3.33	0.99	3.33	1.01	3.20	0.96	3.06	0.92	2.80	0.83
0	-0.7	3.53	0.99	3.53	1.01	3.53	1.00	3.39	0.98	3.25	0.94	2.97	0.85
3	2.2	3.73	1.03	3.73	1.03	3.73	1.01	3.58	1.00	3.43	0.96	3.14	0.87
5	4.1	3.87	1.02	3.87	1.02	3.87	1.02	3.71	1.02	3.56	0.97	3.25	0.88
7	6	3.81	1.01	3.81	1.01	3.81	1.03	3.84	1.03	3.68	0.99	3.37	0.89
9	7.9	3.81	1.00	3.81	1.01	3.81	1.02	3.84	1.00	3.68	0.95	3.37	0.86
11	9.8	3.81	0.97	3.81	0.99	3.81	1.01	3.84	0.96	3.68	0.92	3.37	0.83
13	11.8	3.81	0.93	3.81	0.95	3.81	0.97	3.84	0.93	3.68	0.89	3.37	0.80
15	13.7	3.81	0.90	3.81	0.92	3.81	0.93	3.84	0.89	3.68	0.85	3.37	0.77

DCT 50 INV-Si
Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	3.65	0.54	4.31	0.68	4.97	0.81	5.28	0.88	5.57	0.95	5.69	0.95	5.82	0.96
12.00	3.65	0.55	4.31	0.69	4.97	0.83	5.28	0.90	5.57	0.97	5.69	0.97	5.82	0.98
14.00	3.65	0.56	4.31	0.70	4.97	0.84	5.28	0.91	5.57	0.98	5.69	0.99	5.82	1.00
16.00	3.65	0.57	4.31	0.72	4.97	0.86	5.28	0.93	5.57	1.00	5.69	1.00	5.82	1.01
18.00	3.65	0.58	4.31	0.73	4.97	0.87	5.28	0.95	5.57	1.02	5.69	1.02	5.82	1.03
19.00	3.65	0.59	4.31	0.74	4.97	0.89	5.28	0.96	5.57	1.04	5.69	1.04	5.82	1.05
21.00	3.65	0.64	4.31	0.79	4.97	0.95	5.28	1.03	5.57	1.11	5.69	1.11	5.82	1.13
23.00	3.65	0.68	4.31	0.85	4.97	1.02	5.28	1.10	5.57	1.19	5.69	1.19	5.82	1.21
25.00	3.65	0.73	4.31	0.91	4.97	1.09	5.28	1.18	5.57	1.27	5.69	1.28	5.82	1.29
27.00	3.65	0.78	4.31	0.97	4.97	1.16	5.28	1.26	5.57	1.36	5.69	1.37	5.82	1.38
29.00	3.65	0.83	4.31	1.04	4.97	1.24	5.28	1.35	5.57	1.45	5.69	1.46	5.82	1.47
31.00	3.65	0.89	4.31	1.11	4.97	1.33	5.28	1.44	5.57	1.55	5.69	1.56	5.82	1.57
33.00	3.65	0.95	4.31	1.18	4.97	1.41	5.28	1.53	5.57	1.65	5.69	1.66	5.82	1.67
35.00	3.65	1.01	4.31	1.26	4.97	1.50	5.28	1.63	5.57	1.76	5.69	1.76	5.82	1.78
37.00	3.65	1.07	4.31	1.33	4.97	1.60	5.28	1.73	5.57	1.87	5.69	1.87	5.82	1.89
39.00	3.65	1.08	4.31	1.34	4.97	1.61	5.28	1.74	5.57	1.88	5.69	1.88	5.82	1.90
41.00	3.65	1.08	4.31	1.35	4.97	1.61	5.28	1.75	5.57	1.89	5.69	1.89	5.82	1.91
43.00	3.65	1.09	4.31	1.35	4.97	1.62	5.28	1.76	5.57	1.89	5.69	1.90	5.82	1.92

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	3.72	1.30	3.72	1.33	3.72	1.36	3.57	1.30	3.43	1.24	3.13	1.12
-12.6	-13	3.93	1.32	3.93	1.35	3.93	1.38	3.77	1.32	3.62	1.26	3.30	1.14
-10.5	-11	4.13	1.35	4.13	1.37	4.13	1.40	3.97	1.34	3.81	1.28	3.48	1.16
-9.5	-10	4.23	1.36	4.23	1.38	4.23	1.41	4.07	1.35	3.90	1.29	3.56	1.17
-8.5	-9.1	4.33	1.37	4.33	1.40	4.33	1.42	4.16	1.36	3.99	1.30	3.64	1.17
-7	-7.6	4.48	1.38	4.48	1.41	4.48	1.44	4.30	1.38	4.12	1.31	3.77	1.19
-5	-5.6	4.68	1.40	4.68	1.43	4.68	1.46	4.49	1.40	4.31	1.33	3.93	1.21
-3	-3.7	4.87	1.42	4.87	1.45	4.87	1.48	4.68	1.42	4.49	1.35	4.10	1.22
0	-0.7	5.17	1.45	5.17	1.48	5.17	1.52	4.96	1.45	4.76	1.38	4.35	1.25
3	2.2	5.47	1.48	5.47	1.52	5.47	1.55	5.25	1.48	5.03	1.41	4.60	1.28
5	4.1	5.66	1.50	5.66	1.54	5.66	1.57	5.44	1.50	5.21	1.43	4.76	1.29
7	6	5.86	1.52	5.86	1.56	5.86	1.59	5.63	1.52	5.39	1.45	4.93	1.31
9	7.9	5.86	1.47	5.86	1.51	5.86	1.54	5.63	1.47	5.39	1.40	4.93	1.27
11	9.8	5.86	1.42	5.86	1.45	5.86	1.48	5.63	1.42	5.39	1.35	4.93	1.22
13	11.8	5.86	1.37	5.86	1.40	5.86	1.43	5.63	1.37	5.39	1.30	4.93	1.18
15	13.7	5.86	1.32	5.86	1.35	5.86	1.38	5.63	1.32	5.39	1.26	4.93	1.14

DCT 70 INV-Si
Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	4.87	0.73	5.75	0.91	6.63	1.09	7.03	1.18	7.44	1.27	7.60	1.27	7.76	1.29
12.00	4.87	0.74	5.75	0.92	6.63	1.11	7.03	1.20	7.44	1.29	7.60	1.30	7.76	1.31
14.00	4.87	0.75	5.75	0.94	6.63	1.13	7.03	1.22	7.44	1.32	7.60	1.32	7.76	1.33
16.00	4.87	0.77	5.75	0.96	6.63	1.15	7.03	1.24	7.44	1.34	7.60	1.34	7.76	1.36
18.00	4.87	0.78	5.75	0.97	6.63	1.17	7.03	1.26	7.44	1.36	7.60	1.37	7.76	1.38
19.00	4.87	0.79	5.75	0.99	6.63	1.19	7.03	1.29	7.44	1.39	7.60	1.39	7.76	1.40
21.00	4.87	0.85	5.75	1.06	6.63	1.27	7.03	1.38	7.44	1.49	7.60	1.49	7.76	1.51
23.00	4.87	0.91	5.75	1.14	6.63	1.36	7.03	1.48	7.44	1.59	7.60	1.60	7.76	1.61
25.00	4.87	0.98	5.75	1.22	6.63	1.46	7.03	1.58	7.44	1.70	7.60	1.71	7.76	1.73
27.00	4.87	1.04	5.75	1.30	6.63	1.56	7.03	1.69	7.44	1.82	7.60	1.83	7.76	1.84
29.00	4.87	1.11	5.75	1.39	6.63	1.66	7.03	1.80	7.44	1.94	7.60	1.95	7.76	1.97
31.00	4.87	1.19	5.75	1.48	6.63	1.77	7.03	1.92	7.44	2.07	7.60	2.08	7.76	2.10
33.00	4.87	1.27	5.75	1.58	6.63	1.89	7.03	2.05	7.44	2.21	7.60	2.22	7.76	2.24
35.00	4.87	1.35	5.75	1.68	6.63	2.01	7.03	2.18	7.44	2.35	7.60	2.36	7.76	2.38
37.00	4.87	1.43	5.75	1.79	6.63	2.14	7.03	2.32	7.44	2.50	7.60	2.51	7.76	2.53
39.00	4.87	1.44	5.75	1.79	6.63	2.15	7.03	2.33	7.44	2.51	7.60	2.52	7.76	2.54
41.00	4.87	1.45	5.75	1.80	6.63	2.16	7.03	2.34	7.44	2.52	7.60	2.53	7.76	2.55
43.00	4.87	1.45	5.75	1.81	6.63	2.17	7.03	2.35	7.44	2.53	7.60	2.54	7.76	2.57

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	4.83	1.71	4.83	1.75	4.83	1.79	4.63	1.71	4.44	1.63	4.06	1.47
-12.6	-13	5.09	1.74	5.09	1.78	5.09	1.81	4.89	1.74	4.69	1.66	4.29	1.50
-10.5	-11	5.36	1.77	5.36	1.81	5.36	1.84	5.15	1.76	4.94	1.68	4.51	1.52
-9.5	-10	5.49	1.78	5.49	1.82	5.49	1.86	5.27	1.78	5.05	1.70	4.62	1.53
-8.5	-9.1	5.62	1.80	5.62	1.83	5.62	1.87	5.40	1.79	5.17	1.71	4.73	1.54
-7	-7.6	5.81	1.82	5.81	1.85	5.81	1.89	5.58	1.81	5.35	1.73	4.89	1.56
-5	-5.6	6.07	1.84	6.07	1.88	6.07	1.92	5.82	1.84	5.58	1.75	5.10	1.58
-3	-3.7	6.32	1.87	6.32	1.91	6.32	1.95	6.07	1.86	5.82	1.78	5.32	1.61
0	-0.7	6.70	1.91	6.70	1.95	6.70	1.99	6.44	1.90	6.17	1.82	5.64	1.64
3	2.2	7.09	1.95	7.09	1.99	7.09	2.03	6.81	1.94	6.53	1.86	5.96	1.68
5	4.1	7.34	1.98	7.34	2.02	7.34	2.06	7.05	1.97	6.76	1.88	6.18	1.70
7	6	7.62	2.00	7.62	2.05	7.62	2.09	7.30	2.00	7.00	1.91	6.39	1.72
9	7.9	7.62	1.94	7.62	1.98	7.62	2.02	7.30	1.93	7.00	1.84	6.39	1.67
11	9.8	7.62	1.87	7.62	1.91	7.62	1.95	7.30	1.86	7.00	1.78	6.39	1.61
13	11.8	7.62	1.80	7.62	1.84	7.62	1.88	7.30	1.80	7.00	1.71	6.39	1.55
15	13.7	7.62	1.74	7.62	1.77	7.62	1.81	7.30	1.73	7.00	1.65	6.39	1.49

DCT 90 INV-Si
Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	6.23	0.93	7.36	1.16	8.48	1.39	9.00	1.51	9.52	1.62	9.72	1.63	9.93	1.64
12.00	6.23	0.95	7.36	1.18	8.48	1.41	9.00	1.53	9.52	1.65	9.72	1.66	9.93	1.68
14.00	6.23	0.97	7.36	1.20	8.48	1.44	9.00	1.56	9.52	1.68	9.72	1.69	9.93	1.71
16.00	6.23	0.98	7.36	1.22	8.48	1.47	9.00	1.59	9.52	1.71	9.72	1.72	9.93	1.74
18.00	6.23	1.00	7.36	1.25	8.48	1.49	9.00	1.62	9.52	1.74	9.72	1.75	9.93	1.77
19.00	6.23	1.02	7.36	1.27	8.48	1.52	9.00	1.65	9.52	1.77	9.72	1.78	9.93	1.80
21.00	6.23	1.09	7.36	1.36	8.48	1.63	9.00	1.76	9.52	1.90	9.72	1.91	9.93	1.93
23.00	6.23	1.17	7.36	1.46	8.48	1.74	9.00	1.89	9.52	2.04	9.72	2.04	9.93	2.06
25.00	6.23	1.25	7.36	1.56	8.48	1.86	9.00	2.02	9.52	2.18	9.72	2.19	9.93	2.21
27.00	6.23	1.34	7.36	1.66	8.48	1.99	9.00	2.16	9.52	2.33	9.72	2.34	9.93	2.36
29.00	6.23	1.43	7.36	1.78	8.48	2.13	9.00	2.31	9.52	2.49	9.72	2.50	9.93	2.52
31.00	6.23	1.52	7.36	1.90	8.48	2.27	9.00	2.46	9.52	2.65	9.72	2.66	9.93	2.69
33.00	6.23	1.62	7.36	2.02	8.48	2.42	9.00	2.62	9.52	2.83	9.72	2.84	9.93	2.86
35.00	6.23	1.72	7.36	2.15	8.48	2.57	9.00	2.79	9.52	3.01	9.72	3.02	9.93	3.05
37.00	6.23	1.83	7.36	2.28	8.48	2.74	9.00	2.97	9.52	3.20	9.72	3.21	9.93	3.24
39.00	6.23	1.84	7.36	2.29	8.48	2.75	9.00	2.98	9.52	3.21	9.72	3.22	9.93	3.25
41.00	6.23	1.85	7.36	2.31	8.48	2.76	9.00	2.99	9.52	3.23	9.72	3.24	9.93	3.27
43.00	6.23	1.86	7.36	2.32	8.48	2.77	9.00	3.01	9.52	3.24	9.72	3.25	9.93	3.28

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	6.03	2.15	6.03	2.19	6.03	2.24	5.79	2.14	5.55	2.04	5.07	1.85
-12.6	-13	6.37	2.18	6.37	2.23	6.37	2.27	6.11	2.18	5.86	2.08	5.36	1.88
-10.5	-11	6.70	2.22	6.70	2.26	6.70	2.31	6.44	2.21	6.17	2.11	5.64	1.91
-9.5	-10	6.86	2.23	6.86	2.28	6.86	2.33	6.59	2.23	6.32	2.13	5.77	1.92
-8.5	-9.1	7.02	2.25	7.02	2.30	7.02	2.35	6.74	2.24	6.47	2.14	5.91	1.94
-7	-7.6	7.26	2.28	7.26	2.32	7.26	2.37	6.97	2.27	6.69	2.17	6.11	1.96
-5	-5.6	7.58	2.31	7.58	2.36	7.58	2.41	7.28	2.30	6.98	2.20	6.38	1.99
-3	-3.7	7.90	2.34	7.90	2.39	7.90	2.44	7.59	2.34	7.27	2.23	6.65	2.02
0	-0.7	8.38	2.39	8.38	2.45	8.38	2.50	8.05	2.39	7.72	2.28	7.05	2.06
3	2.2	8.86	2.45	8.86	2.50	8.86	2.55	8.51	2.44	8.16	2.33	7.45	2.10
5	4.1	9.18	2.48	9.18	2.53	9.18	2.58	8.82	2.47	8.45	2.36	7.72	2.13
7	6	9.50	2.51	9.50	2.57	9.50	2.62	9.12	2.51	8.75	2.39	7.99	2.16
9	7.9	9.50	2.43	9.50	2.48	9.50	2.53	9.12	2.42	8.75	2.31	7.99	2.09
11	9.8	9.50	2.34	9.50	2.39	9.50	2.44	9.12	2.34	8.75	2.23	7.99	2.02
13	11.8	9.50	2.26	9.50	2.31	9.50	2.36	9.12	2.25	8.75	2.15	7.99	1.94
15	13.7	9.50	2.18	9.50	2.22	9.50	2.27	9.12	2.17	8.75	2.07	7.99	1.87

DCT 100 INV-Si（matched with DCT 100 INV-Si-1 outdoor unit）

Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	7.27	1.09	8.58	1.36	9.90	1.62	10.50	1.76	11.10	1.90	11.35	1.90	11.59	1.92
12.00	7.27	1.11	8.58	1.38	9.90	1.65	10.50	1.79	11.10	1.93	11.35	1.94	11.59	1.96
14.00	7.27	1.13	8.58	1.41	9.90	1.68	10.50	1.83	11.10	1.97	11.35	1.97	11.59	1.99
16.00	7.27	1.15	8.58	1.43	9.90	1.71	10.50	1.86	11.10	2.00	11.35	2.01	11.59	2.03
18.00	7.27	1.17	8.58	1.46	9.90	1.74	10.50	1.89	11.10	2.04	11.35	2.04	11.59	2.06
19.00	7.27	1.19	8.58	1.48	9.90	1.77	10.50	1.92	11.10	2.07	11.35	2.08	11.59	2.10
21.00	7.27	1.27	8.58	1.59	9.90	1.90	10.50	2.06	11.10	2.22	11.35	2.23	11.59	2.25
23.00	7.27	1.36	8.58	1.70	9.90	2.04	10.50	2.21	11.10	2.38	11.35	2.39	11.59	2.41
25.00	7.27	1.46	8.58	1.82	9.90	2.18	10.50	2.36	11.10	2.55	11.35	2.56	11.59	2.58
27.00	7.27	1.56	8.58	1.95	9.90	2.33	10.50	2.53	11.10	2.72	11.35	2.73	11.59	2.76
29.00	7.27	1.67	8.58	2.08	9.90	2.49	10.50	2.70	11.10	2.91	11.35	2.92	11.59	2.95
31.00	7.27	1.78	8.58	2.22	9.90	2.65	10.50	2.88	11.10	3.10	11.35	3.11	11.59	3.14
33.00	7.27	1.89	8.58	2.36	9.90	2.83	10.50	3.06	11.10	3.30	11.35	3.31	11.59	3.35
35.00	7.27	2.01	8.58	2.51	9.90	3.01	10.50	3.26	11.10	3.51	11.35	3.53	11.59	3.56
37.00	7.27	2.14	8.58	2.67	9.90	3.20	10.50	3.47	11.10	3.74	11.35	3.75	11.59	3.79
39.00	7.27	2.15	8.58	2.68	9.90	3.21	10.50	3.48	11.10	3.75	11.35	3.77	11.59	3.80
41.00	7.27	2.16	8.58	2.69	9.90	3.23	10.50	3.50	11.10	3.77	11.35	3.78	11.59	3.82
43.00	7.27	2.17	8.58	2.71	9.90	3.24	10.50	3.51	11.10	3.79	11.35	3.80	11.59	3.84

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	7.62	2.71	7.62	2.77	7.62	2.83	7.32	2.70	7.01	2.58	6.41	2.33
-12.6	-13	8.04	2.76	8.04	2.82	8.04	2.87	7.72	2.75	7.40	2.62	6.77	2.37
-10.5	-11	8.47	2.80	8.47	2.86	8.47	2.92	8.13	2.79	7.79	2.66	7.12	2.41
-9.5	-10	8.67	2.82	8.67	2.88	8.67	2.94	8.32	2.81	7.98	2.69	7.29	2.43
-8.5	-9.1	8.87	2.84	8.87	2.90	8.87	2.97	8.52	2.84	8.17	2.71	7.46	2.45
-7	-7.6	9.17	2.88	9.17	2.94	9.17	3.00	8.81	2.87	8.45	2.74	7.72	2.47
-5	-5.6	9.58	2.92	9.58	2.98	9.58	3.04	9.20	2.91	8.82	2.78	8.06	2.51
-3	-3.7	9.98	2.96	9.98	3.02	9.98	3.09	9.59	2.95	9.19	2.82	8.40	2.55
0	-0.7	10.59	3.03	10.59	3.09	10.59	3.15	10.17	3.02	9.75	2.88	8.91	2.60
3	2.2	11.19	3.09	11.19	3.16	11.19	3.22	10.75	3.08	10.30	2.94	9.42	2.66
5	4.1	11.60	3.13	11.60	3.20	11.60	3.27	11.14	3.12	10.68	2.98	9.76	2.69
7	6	12.00	3.17	12.00	3.24	12.00	3.31	11.52	3.16	11.05	3.02	10.10	2.73
9	7.9	12.00	3.07	12.00	3.13	12.00	3.20	11.52	3.06	11.05	2.92	10.10	2.64
11	9.8	12.00	2.96	12.00	3.02	12.00	3.09	11.52	2.95	11.05	2.82	10.10	2.55
13	11.8	12.00	2.85	12.00	2.92	12.00	2.98	11.52	2.85	11.05	2.72	10.10	2.45
15	13.7	12.00	2.75	12.00	2.81	12.00	2.87	11.52	2.74	11.05	2.61	10.10	2.36

DCT 100 INV-Si（matched with DCT 100 INV-Si outdoor unit）

Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	7.27	1.09	8.58	1.36	9.90	1.62	10.55	1.76	11.10	1.90	11.35	1.90	11.59	1.92
12.00	7.27	1.11	8.58	1.38	9.90	1.65	10.55	1.79	11.10	1.93	11.35	1.94	11.59	1.96
14.00	7.27	1.13	8.58	1.41	9.90	1.68	10.55	1.83	11.10	1.97	11.35	1.97	11.59	1.99
16.00	7.27	1.15	8.58	1.43	9.90	1.71	10.55	1.86	11.10	2.00	11.35	2.01	11.59	2.03
18.00	7.27	1.17	8.58	1.46	9.90	1.74	10.55	1.89	11.10	2.04	11.35	2.04	11.59	2.06
19.00	7.27	1.19	8.58	1.48	9.90	1.77	10.55	1.92	11.10	2.07	11.35	2.08	11.59	2.10
21.00	7.27	1.27	8.58	1.59	9.90	1.90	10.55	2.06	11.10	2.22	11.35	2.23	11.59	2.25
23.00	7.27	1.36	8.58	1.70	9.90	2.04	10.55	2.21	11.10	2.38	11.35	2.39	11.59	2.41
25.00	7.27	1.46	8.58	1.82	9.90	2.18	10.55	2.36	11.10	2.55	11.35	2.56	11.59	2.58
27.00	7.27	1.56	8.58	1.95	9.90	2.33	10.55	2.53	11.10	2.72	11.35	2.73	11.59	2.76
29.00	7.27	1.67	8.58	2.08	9.90	2.49	10.55	2.70	11.10	2.91	11.35	2.92	11.59	2.95
31.00	7.27	1.78	8.58	2.22	9.90	2.65	10.55	2.88	11.10	3.10	11.35	3.11	11.59	3.14
33.00	7.27	1.89	8.58	2.36	9.90	2.83	10.55	3.06	11.10	3.30	11.35	3.31	11.59	3.35
35.00	7.27	2.01	8.58	2.51	9.90	3.01	10.55	3.27	11.10	3.51	11.35	3.53	11.59	3.56
37.00	7.27	2.14	8.58	2.67	9.90	3.20	10.55	3.47	11.10	3.74	11.35	3.75	11.59	3.79
39.00	7.27	2.15	8.58	2.68	9.90	3.21	10.55	3.48	11.10	3.75	11.35	3.77	11.59	3.80
41.00	7.27	2.16	8.58	2.69	9.90	3.23	10.55	3.50	11.10	3.77	11.35	3.78	11.59	3.82
43.00	7.27	2.17	8.58	2.71	9.90	3.24	10.55	3.51	11.10	3.79	11.35	3.80	11.59	3.84

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	7.00	2.48	7.00	2.54	7.00	2.59	6.72	2.47	6.44	2.36	5.89	2.13
-12.6	-13	7.39	2.52	7.39	2.58	7.39	2.63	7.10	2.52	6.80	2.40	6.22	2.17
-10.5	-11	7.78	2.56	7.78	2.62	7.78	2.67	7.47	2.56	7.16	2.44	6.54	2.21
-9.5	-10	7.96	2.58	7.96	2.64	7.96	2.69	7.65	2.58	7.33	2.46	6.70	2.22
-8.5	-9.1	8.15	2.60	8.15	2.66	8.15	2.71	7.83	2.60	7.50	2.48	6.86	2.24
-7	-7.6	8.43	2.63	8.43	2.69	8.43	2.74	8.09	2.62	7.76	2.50	7.09	2.26
-5	-5.6	8.80	2.67	8.80	2.73	8.80	2.79	8.45	2.66	8.10	2.54	7.40	2.30
-3	-3.7	9.17	2.71	9.17	2.77	9.17	2.83	8.81	2.70	8.44	2.58	7.71	2.33
0	-0.7	9.73	2.77	9.73	2.83	9.73	2.89	9.34	2.76	8.95	2.63	8.18	2.38
3	2.2	10.28	2.83	10.28	2.89	10.28	2.95	9.88	2.82	9.47	2.69	8.65	2.43
5	4.1	10.85	2.87	10.85	2.93	10.85	2.99	10.23	2.86	9.81	2.73	8.96	2.47
7	6	11.72	2.91	11.72	2.97	11.72	3.23	10.59	2.90	10.15	2.76	9.28	2.50
9	7.9	11.72	2.81	11.72	2.87	11.72	3.03	10.59	2.80	10.15	2.67	9.28	2.42
11	9.8	11.72	2.71	11.72	2.77	11.72	2.83	10.59	2.70	10.15	2.58	9.28	2.33
13	11.8	11.72	2.61	11.72	2.67	11.72	2.72	10.59	2.61	10.15	2.49	9.28	2.25
15	13.7	11.72	2.52	11.72	2.57	11.72	2.62	10.59	2.51	10.15	2.39	9.28	2.16

DCT 140 INV-Si（matched with DCT 140 INV-Si-1 outdoor unit）

Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	9.70	1.45	11.45	1.81	13.20	2.17	14.00	2.35	14.81	2.53	15.13	2.54	15.45	2.56
12.00	9.70	1.48	11.45	1.84	13.20	2.21	14.00	2.39	14.81	2.58	15.13	2.59	15.45	2.61
14.00	9.70	1.51	11.45	1.88	13.20	2.25	14.00	2.44	14.81	2.63	15.13	2.63	15.45	2.66
16.00	9.70	1.53	11.45	1.91	13.20	2.29	14.00	2.48	14.81	2.67	15.13	2.68	15.45	2.71
18.00	9.70	1.56	11.45	1.94	13.20	2.33	14.00	2.52	14.81	2.72	15.13	2.73	15.45	2.75
19.00	9.70	1.59	11.45	1.98	13.20	2.37	14.00	2.57	14.81	2.77	15.13	2.78	15.45	2.80
21.00	9.70	1.70	11.45	2.12	13.20	2.54	14.00	2.75	14.81	2.97	15.13	2.98	15.45	3.00
23.00	9.70	1.82	11.45	2.27	13.20	2.72	14.00	2.95	14.81	3.18	15.13	3.19	15.45	3.22
25.00	9.70	1.95	11.45	2.43	13.20	2.91	14.00	3.15	14.81	3.40	15.13	3.41	15.45	3.44
27.00	9.70	2.08	11.45	2.60	13.20	3.11	14.00	3.37	14.81	3.63	15.13	3.65	15.45	3.68
29.00	9.70	2.22	11.45	2.77	13.20	3.32	14.00	3.60	14.81	3.88	15.13	3.89	15.45	3.93
31.00	9.70	2.37	11.45	2.96	13.20	3.54	14.00	3.84	14.81	4.14	15.13	4.15	15.45	4.19
33.00	9.70	2.53	11.45	3.15	13.20	3.77	14.00	4.09	14.81	4.41	15.13	4.42	15.45	4.46
35.00	9.70	2.69	11.45	3.35	13.20	4.01	14.00	4.35	14.81	4.69	15.13	4.70	15.45	4.75
37.00	9.70	2.86	11.45	3.56	13.20	4.27	14.00	4.63	14.81	4.99	15.13	5.00	15.45	5.05
39.00	9.70	2.87	11.45	3.58	13.20	4.28	14.00	4.65	14.81	5.01	15.13	5.02	15.45	5.07
41.00	9.70	2.88	11.45	3.59	13.20	4.30	14.00	4.67	14.81	5.03	15.13	5.05	15.45	5.10
43.00	9.70	2.90	11.45	3.61	13.20	4.32	14.00	4.69	14.81	5.06	15.13	5.07	15.45	5.12

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	9.52	3.41	9.52	3.48	9.52	3.55	9.15	3.40	8.77	3.24	8.01	2.93
-12.6	-13	10.05	3.46	10.05	3.54	10.05	3.61	9.65	3.45	9.26	3.30	8.46	2.98
-10.5	-11	10.58	3.52	10.58	3.60	10.58	3.67	10.16	3.51	9.74	3.35	8.90	3.03
-9.5	-10	10.84	3.55	10.84	3.62	10.84	3.70	10.41	3.54	9.98	3.37	9.12	3.05
-8.5	-9.1	11.09	3.57	11.09	3.65	11.09	3.73	10.65	3.56	10.21	3.40	9.33	3.07
-7	-7.6	11.47	3.61	11.47	3.69	11.47	3.77	11.01	3.60	10.56	3.44	9.65	3.11
-5	-5.6	11.97	3.67	11.97	3.75	11.97	3.82	11.50	3.66	11.02	3.49	10.07	3.15
-3	-3.7	12.48	3.72	12.48	3.80	12.48	3.88	11.98	3.71	11.49	3.54	10.50	3.20
0	-0.7	13.23	3.80	13.23	3.88	13.23	3.96	12.71	3.79	12.18	3.62	11.13	3.27
3	2.2	13.99	3.88	13.99	3.97	13.99	4.05	13.44	3.87	12.88	3.69	11.77	3.34
5	4.1	14.50	3.94	14.50	4.02	14.50	4.10	13.92	3.92	13.34	3.74	12.19	3.38
7	6	15.00	3.99	15.00	4.07	15.00	4.16	14.40	3.98	13.81	3.80	12.62	3.43
9	7.9	15.00	3.86	15.00	3.94	15.00	4.02	14.40	3.84	13.81	3.67	12.62	3.32
11	9.8	15.00	3.72	15.00	3.80	15.00	3.88	14.40	3.71	13.81	3.54	12.62	3.20
13	11.8	15.00	3.59	15.00	3.66	15.00	3.74	14.40	3.58	13.81	3.41	12.62	3.09
15	13.7	15.00	3.45	15.00	3.53	15.00	3.60	14.40	3.44	13.81	3.29	12.62	2.97

DCT 140 INV-Si（matched with DCT 140 INV-Si outdoor unit）

Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	9.70	1.45	11.45	1.80	13.20	2.16	14.06	2.34	14.81	2.52	15.13	2.53	15.45	2.55
12.00	9.70	1.47	11.45	1.83	13.20	2.20	14.06	2.38	14.81	2.57	15.13	2.58	15.45	2.60
14.00	9.70	1.50	11.45	1.87	13.20	2.24	14.06	2.42	14.81	2.61	15.13	2.62	15.45	2.65
16.00	9.70	1.53	11.45	1.90	13.20	2.28	14.06	2.47	14.81	2.66	15.13	2.67	15.45	2.69
18.00	9.70	1.55	11.45	1.93	13.20	2.32	14.06	2.51	14.81	2.71	15.13	2.72	15.45	2.74
19.00	9.70	1.58	11.45	1.97	13.20	2.36	14.06	2.55	14.81	2.75	15.13	2.76	15.45	2.79
21.00	9.70	1.69	11.45	2.11	13.20	2.53	14.06	2.74	14.81	2.95	15.13	2.96	15.45	2.99
23.00	9.70	1.81	11.45	2.26	13.20	2.70	14.06	2.93	14.81	3.16	15.13	3.17	15.45	3.20
25.00	9.70	1.94	11.45	2.42	13.20	2.89	14.06	3.14	14.81	3.38	15.13	3.39	15.45	3.43
27.00	9.70	2.07	11.45	2.58	13.20	3.09	14.06	3.36	14.81	3.62	15.13	3.63	15.45	3.66
29.00	9.70	2.21	11.45	2.76	13.20	3.30	14.06	3.58	14.81	3.86	15.13	3.87	15.45	3.91
31.00	9.70	2.36	11.45	2.94	13.20	3.52	14.06	3.82	14.81	4.12	15.13	4.13	15.45	4.17
33.00	9.70	2.52	11.45	3.13	13.20	3.75	14.06	4.07	14.81	4.39	15.13	4.40	15.45	4.44
35.00	9.70	2.68	11.45	3.33	13.20	3.99	14.06	4.33	14.81	4.67	15.13	4.68	15.45	4.73
37.00	9.70	2.85	11.45	3.55	13.20	4.25	14.06	4.61	14.81	4.96	15.13	4.98	15.45	5.03
39.00	9.70	2.86	11.45	3.56	13.20	4.26	14.06	4.63	14.81	4.99	15.13	5.00	15.45	5.05
41.00	9.70	2.87	11.45	3.58	13.20	4.28	14.06	4.65	14.81	5.01	15.13	5.02	15.45	5.07
43.00	9.70	2.88	11.45	3.59	13.20	4.30	14.06	4.67	14.81	5.03	15.13	5.05	15.45	5.10

Heating

Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	9.52	3.41	9.52	3.48	9.52	3.55	9.15	3.40	8.77	3.24	8.01	2.93
-12.6	-13	10.05	3.46	10.05	3.54	10.05	3.61	9.65	3.45	9.26	3.30	8.46	2.98
-10.5	-11	10.58	3.52	10.58	3.60	10.58	3.67	10.16	3.51	9.74	3.35	8.90	3.03
-9.5	-10	10.84	3.55	10.84	3.62	10.84	3.70	10.41	3.54	9.98	3.37	9.12	3.05
-8.5	-9.1	11.09	3.57	11.09	3.65	11.09	3.73	10.65	3.56	10.21	3.40	9.33	3.07
-7	-7.6	11.47	3.61	11.47	3.69	11.47	3.77	11.01	3.60	10.56	3.44	9.65	3.11
-5	-5.6	11.97	3.67	11.97	3.75	11.97	3.82	11.50	3.66	11.02	3.49	10.07	3.15
-3	-3.7	12.48	3.72	12.48	3.80	12.48	3.88	11.98	3.71	11.49	3.54	10.50	3.20
0	-0.7	13.23	3.80	13.23	3.88	13.23	3.96	12.71	3.79	12.18	3.62	11.13	3.27
3	2.2	13.99	3.88	13.99	3.97	13.99	4.05	13.44	3.87	12.88	3.69	11.77	3.34
5	4.1	14.50	3.94	14.50	4.02	14.50	4.10	13.92	3.92	13.34	3.74	12.19	3.38
7	6	15.24	3.99	15.24	4.07	15.24	4.22	14.40	3.98	13.81	3.80	12.62	3.43
9	7.9	15.24	3.86	15.24	3.94	15.24	4.02	14.40	3.84	13.81	3.67	12.62	3.32
11	9.8	15.24	3.72	15.24	3.80	15.24	3.88	14.40	3.71	13.81	3.54	12.62	3.20
13	11.8	15.24	3.59	15.24	3.66	15.24	3.74	14.40	3.58	13.81	3.41	12.62	3.09
15	13.7	15.24	3.45	15.24	3.53	15.24	3.60	14.40	3.44	13.81	3.29	12.62	2.97

DCT 170 INV-Si
Cooling

Outdoor temperature(℃ DB)	Indoor temperature(℃ WB)													
	14.00		16.00		18.00		19.00		20.00		22.00		24.00	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.00	12.17	1.51	14.37	1.88	16.57	2.25	17.58	2.44	18.59	2.63	19.00	2.64	19.40	2.67
12.00	12.17	1.60	14.37	2.00	16.57	2.39	17.58	2.60	18.59	2.80	19.00	2.81	19.40	2.84
14.00	12.17	1.71	14.37	2.13	16.57	2.55	17.58	2.76	18.59	2.98	19.00	2.99	19.40	3.02
16.00	12.17	1.82	14.37	2.27	16.57	2.71	17.58	2.94	18.59	3.17	19.00	3.18	19.40	3.21
18.00	12.17	1.93	14.37	2.41	16.57	2.88	17.58	3.13	18.59	3.37	19.00	3.38	19.40	3.42
19.00	12.17	2.05	14.37	2.56	16.57	3.07	17.58	3.33	18.59	3.59	19.00	3.60	19.40	3.63
21.00	12.17	2.19	14.37	2.73	16.57	3.26	17.58	3.54	18.59	3.82	19.00	3.82	19.40	3.87
23.00	12.17	2.33	14.37	2.90	16.57	3.47	17.58	3.77	18.59	4.06	19.00	4.07	19.40	4.11
25.00	12.17	2.47	14.37	3.09	16.57	3.69	17.58	4.01	18.59	4.32	19.00	4.33	19.40	4.38
27.00	12.17	2.63	14.37	3.28	16.57	3.93	17.58	4.26	18.59	4.60	19.00	4.60	19.40	4.66
29.00	12.17	2.80	14.37	3.49	16.57	4.18	17.58	4.53	18.59	4.89	19.00	4.90	19.40	4.95
31.00	12.17	2.98	14.37	3.72	16.57	4.44	17.58	4.82	18.59	5.20	19.00	5.21	19.40	5.27
33.00	12.17	3.17	14.37	3.95	16.57	4.73	17.58	5.13	18.59	5.53	19.00	5.54	19.40	5.60
35.00	12.17	3.37	14.37	4.21	16.57	5.03	17.58	5.46	18.59	5.89	19.00	5.90	19.40	5.97
37.00	12.17	3.44	14.37	4.29	16.57	5.13	17.58	5.57	18.59	6.01	19.00	6.02	19.40	6.08
39.00	12.17	3.51	14.37	4.38	16.57	5.23	17.58	5.68	18.59	6.13	19.00	6.14	19.40	6.21
41.00	12.17	3.58	14.37	4.46	16.57	5.34	17.58	5.79	18.59	6.25	19.00	6.26	19.40	6.33
43.00	12.17	3.65	14.37	4.55	16.57	5.45	17.58	5.91	18.59	6.37	19.00	6.39	19.40	6.46

Heating

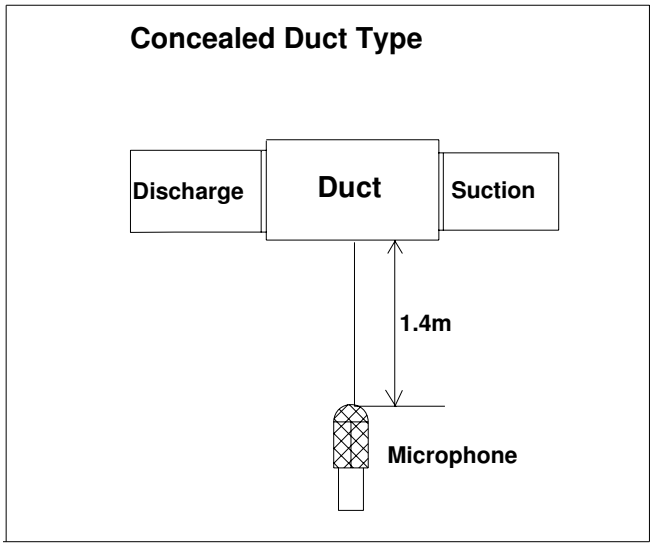
Outdoor air temp.		Indoor temperature(℃ DB)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
℃ DB	℃ WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-14.7	-15	12.83	4.58	12.83	4.68	12.83	4.77	12.32	4.57	11.83	4.35	10.80	3.94
-12.6	-13	13.56	4.64	13.56	4.74	13.56	4.84	13.01	4.64	12.49	4.42	11.41	4.00
-10.5	-11	14.27	4.71	14.27	4.81	14.27	4.91	13.70	4.70	13.15	4.48	12.01	4.06
-9.5	-10	14.60	4.78	14.60	4.88	14.60	4.99	14.02	4.77	13.46	4.55	12.29	4.12
-8.5	-9.1	14.95	4.85	14.95	4.96	14.95	5.06	14.35	4.84	13.78	4.61	12.58	4.18
-7	-7.6	15.45	4.92	15.45	5.03	15.45	5.13	14.83	4.91	14.24	4.68	13.00	4.24
-5	-5.6	16.14	4.99	16.14	5.10	16.14	5.21	15.50	4.98	14.88	4.75	13.58	4.30
-3	-3.7	16.82	5.07	16.82	5.18	16.82	5.28	16.15	5.06	15.50	4.82	14.15	4.36
0	-0.7	17.84	5.14	17.84	5.25	17.84	5.36	17.13	5.13	16.44	4.89	15.01	4.43
3	2.2	18.86	5.22	18.86	5.33	18.86	5.44	18.11	5.21	17.39	4.96	15.87	4.49
5	4.1	19.54	5.29	19.54	5.41	19.54	5.52	18.76	5.28	18.01	5.03	16.44	4.56
7	6	20.22	5.37	20.22	5.49	20.22	5.60	19.41	5.36	18.63	5.11	17.01	4.62
9	7.9	20.22	5.19	20.22	5.30	20.22	5.42	19.41	5.18	18.63	4.94	17.01	4.47
11	9.8	20.22	5.01	20.22	5.11	20.22	5.22	19.41	5.00	18.63	4.76	17.01	4.31
13	11.8	20.22	4.83	20.22	4.93	20.22	5.03	19.41	4.82	18.63	4.59	17.01	4.15
15	13.7	20.22	4.65	20.22	4.75	20.22	4.85	19.41	4.64	18.63	4.42	17.01	4.00

8. Electric Characteristics

Model	Indoor Unit				Power Supply	Indoor fan motor	
	Hz	Voltage	Min.	Max.	MFA	kW	FLA
DCT 35 INV-Si	50	220-240	207	253	15	0.025	0.27
DCT 50 INV-Si	50	220-240	207	253	15	0.068	0.48
DCT 70 INV-Si	50	220-240	207	253	15	0.074	0.73
DCT 90 INV-Si	50	220-240	207	253	15	0.1	1.00
DCT 100 INV-Si	50	220-240	207	253	15	0.14	1.28
DCT 140 INV-Si	50	220-240	207	253	15	0.17	1.55
DCT 170 INV-Si	50	220-240	207	253	15	0.18	1.55

Remark:
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (KW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

9. Sound Levels



Model	Noise level dB(A)		
	H	M	L
DCT 35 INV-Si	36.9	30.2	26.4
DCT 50 INV-Si	44.0	35.9	32.8
DCT 70 INV-Si	45.1	43.2	40.9
DCT 90 INV-Si	46.1	44.0	42.2
DCT 100 INV-Si	46.1	44.0	42.2
DCT 140 INV-Si	47.1	45.3	42.9
DCT 170 INV-Si	47.3	45.2	43.1

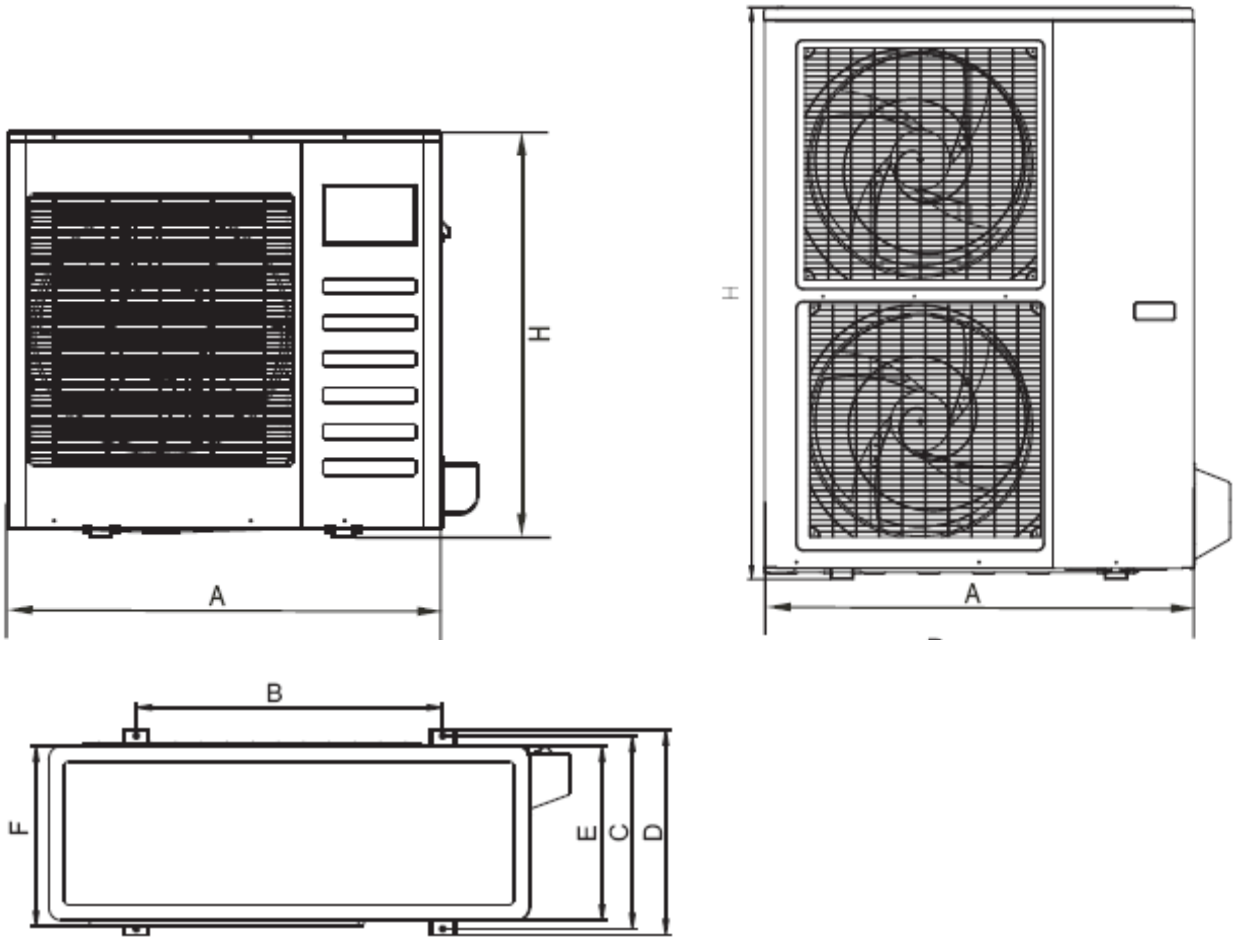
11. Accessories

	Name	Shape	Quantity
Tubing & Fittings	Soundproof / insulation sheath		2
	Binding tape		1
	Seal sponge		1
Drainpipe Fittings (for cooling & heating)	Drain joint		1
	Seal ring		1
Wired controller & Its Frame	Wired controller		1
Others	Owner' s manual		1
	Installation manual		1

Part 3
Outdoor Units

1. Dimensions .....
2. Service Space .....
3. Piping Diagrams .....
4. Wiring Diagrams .....
5. Field Wiring .....
6. Electric Characteristics .....
7. Sound Levels .....
Operation Limits .....
Troubleshooting .....

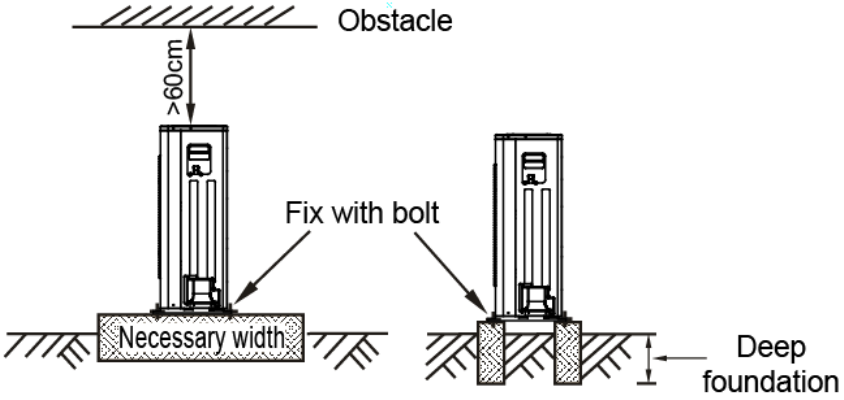
1. Dimensions

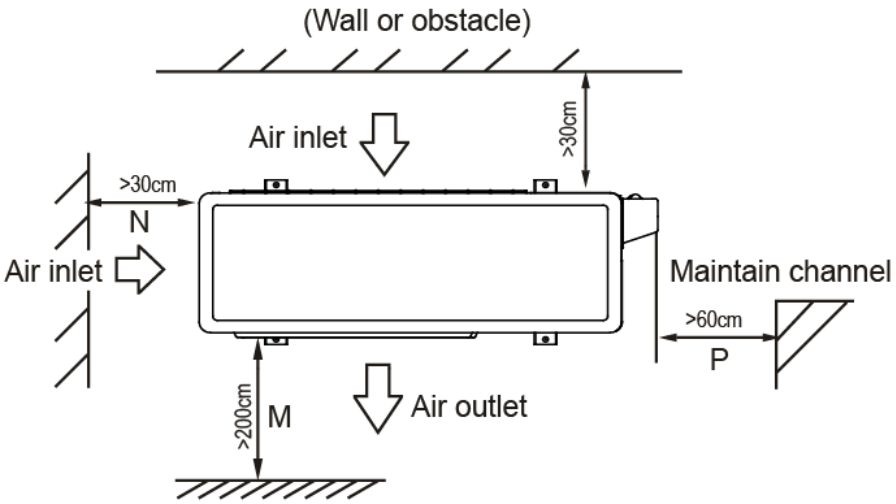


Unit: mm

MODEL	A	B	C	D	E	F	H
CCT 301 INVo **CFT 35 INV-Ro** **DCT 35 INV-So**	761	530	290	315	270	279	593
CCT 501 INVo **CCT 50 INV-So** **CFT 50 INV-Ro** **DCT 50 INV-So**	842	560	335	360	312	324	695
CCT 70 INV-So **CFT 70 INV-Ro** **DCT 70 INV-So**	895	862	313	355	302	80	862
CCT 90 INV-So **CFT 90 INV-Ro** **DCT 90 INV-So**	990	624	366	396	340	354	966
CCT 100 INV-So-1 **CFT 100 INV-Ro-1** **DCT 100 INV-So-1**	940	600	376	400	340	360	1245
CCT 100 INV-So **CFT 100 INV-Ro** **DCT 100 INV-So**	990	624	366	396	340	354	966
CCT 140 INV-So-1 **CFT 140 INV-Ro-1** **DCT 140 INV-So-1**	940	600	376	400	340	360	1245
CCT 140 INV-So **CFT 140 INV-Ro** **DCT 140 INV-So**	940	600	376	400	340	360	1245
CCT 170 INV-So **CFT 170 INV-Ro** **DCT 170 INV-So**	940	600	376	400	340	360	1245
DHP 170 INV -Ro	940	600	376	400	340	360	1245

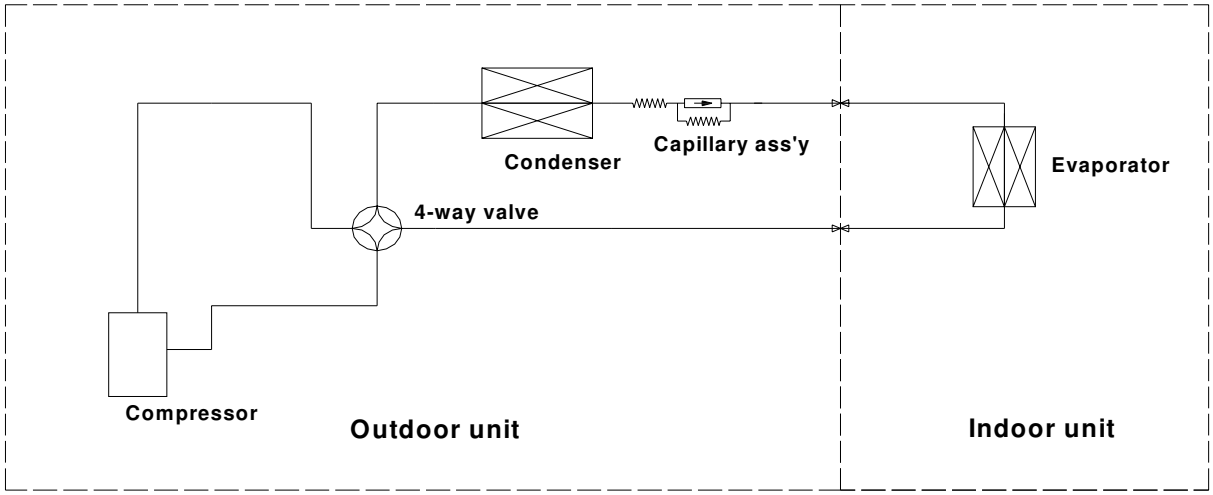
2. Service Space



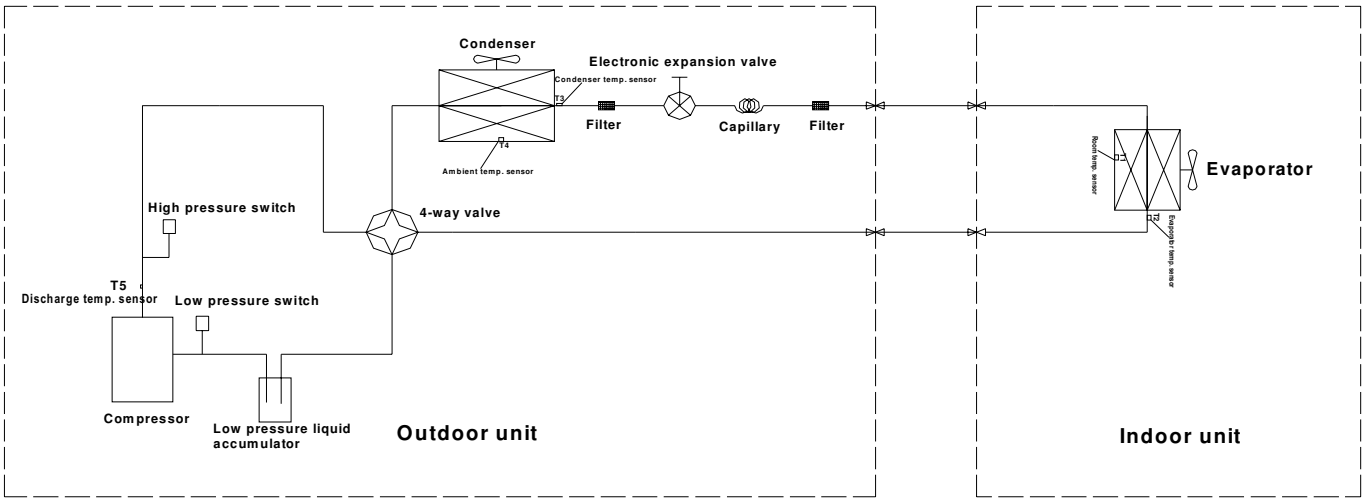


3. Piping Diagrams

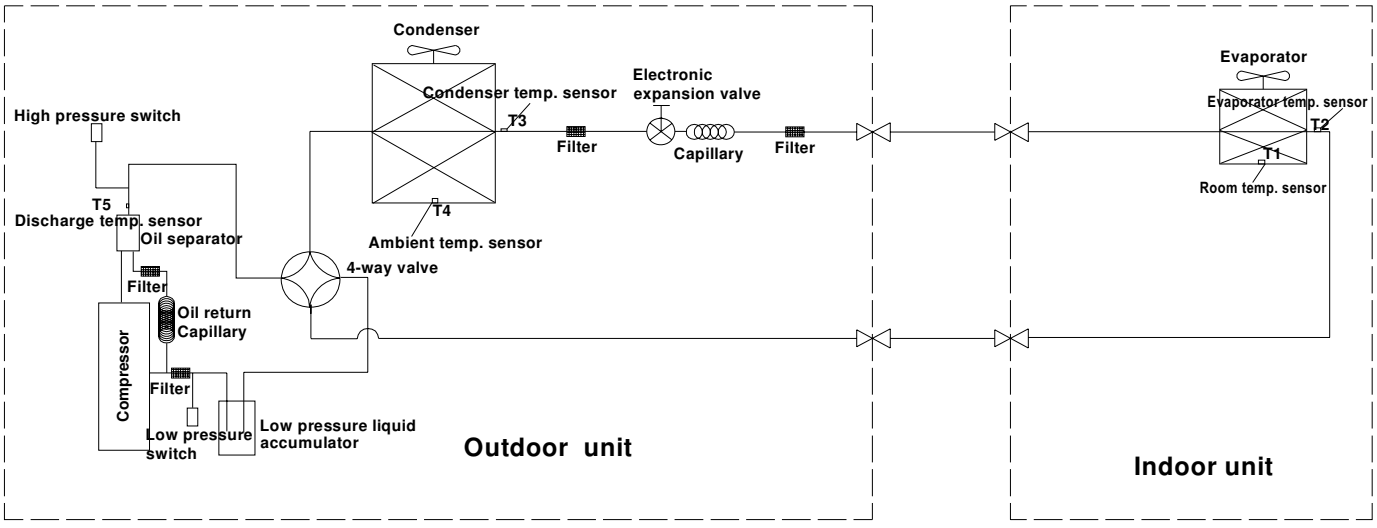
CCT 301 INVo, CFT 35 INV-Ro, DCT 35 INV-So



CCT 501 INVo, CCT 50 INV-So, CFT 50 INV-Ro, DCT 50 INV-So
CCT 70 INV-So, CFT 70 INV-Ro, DCT 70 INV-So

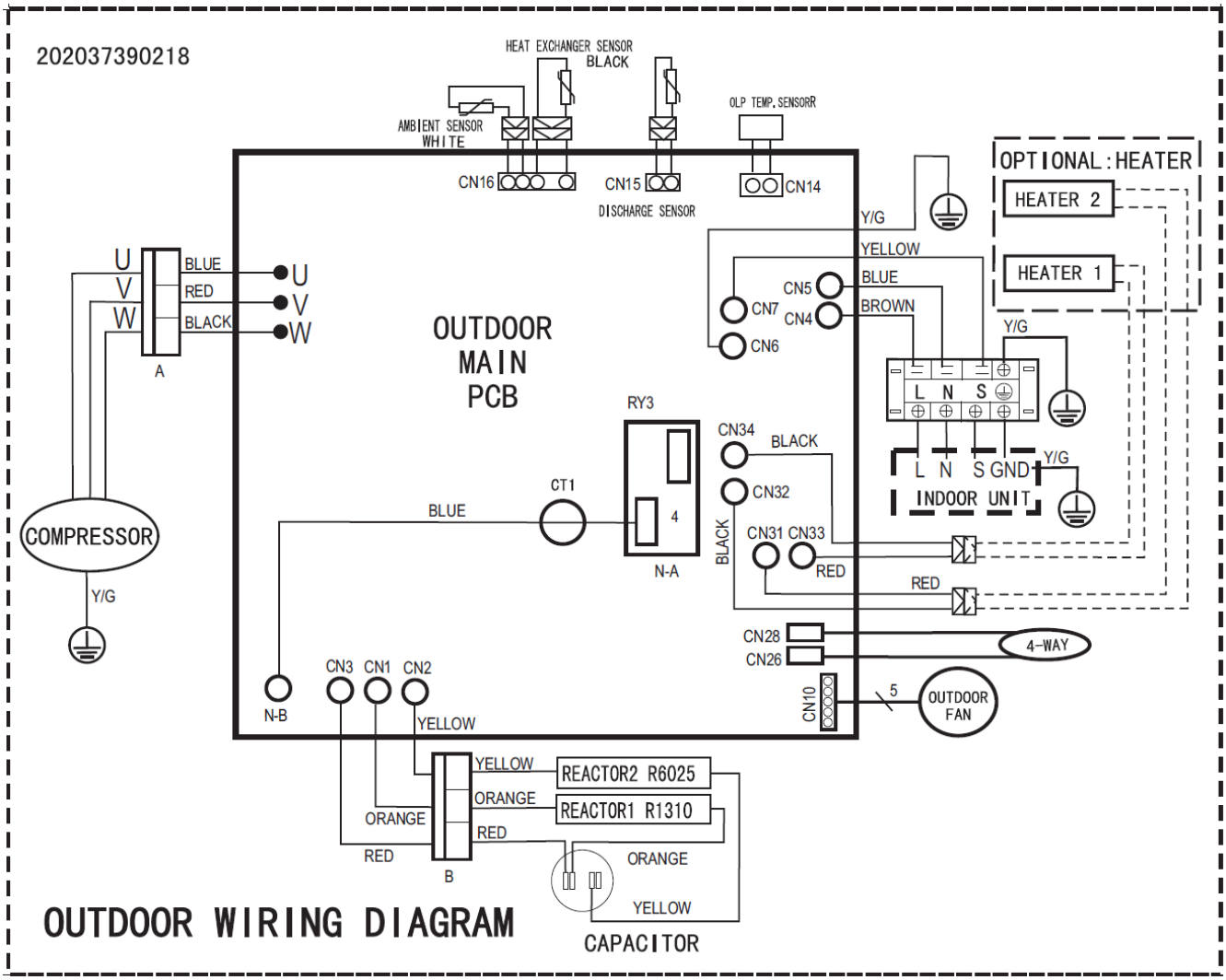


CCT 90 INV-So, CFT 90 INV-Ro, DCT 90 INV-So,
CCT 100 INV-So-1, CFT 100 INV-Ro-1, DCT 100 INV-So-1
CCT 100 INV-So, CFT 100 INV-Ro, DCT 100 INV-So,
CCT 140 INV-So-1, CFT 140 INV-Ro-1, DCT 140 INV-So-1
CCT 140 INV-So, CFT 140 INV-Ro, DCT 140 INV-So,
CCT 170 INV-So, CFT 170 INV-Ro, DCT 170 INV-So, DHP 170 INV -Ro

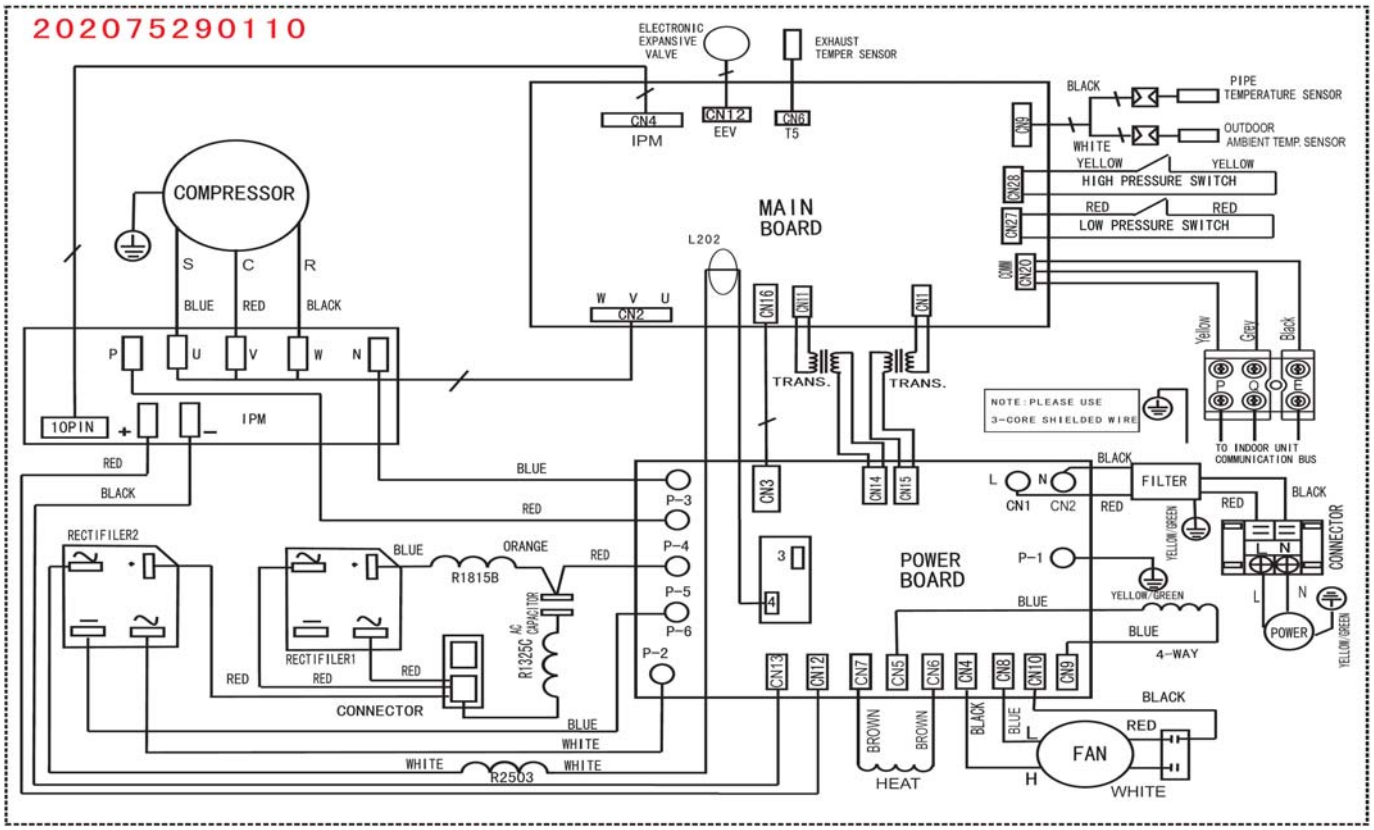


4. Wiring Diagrams

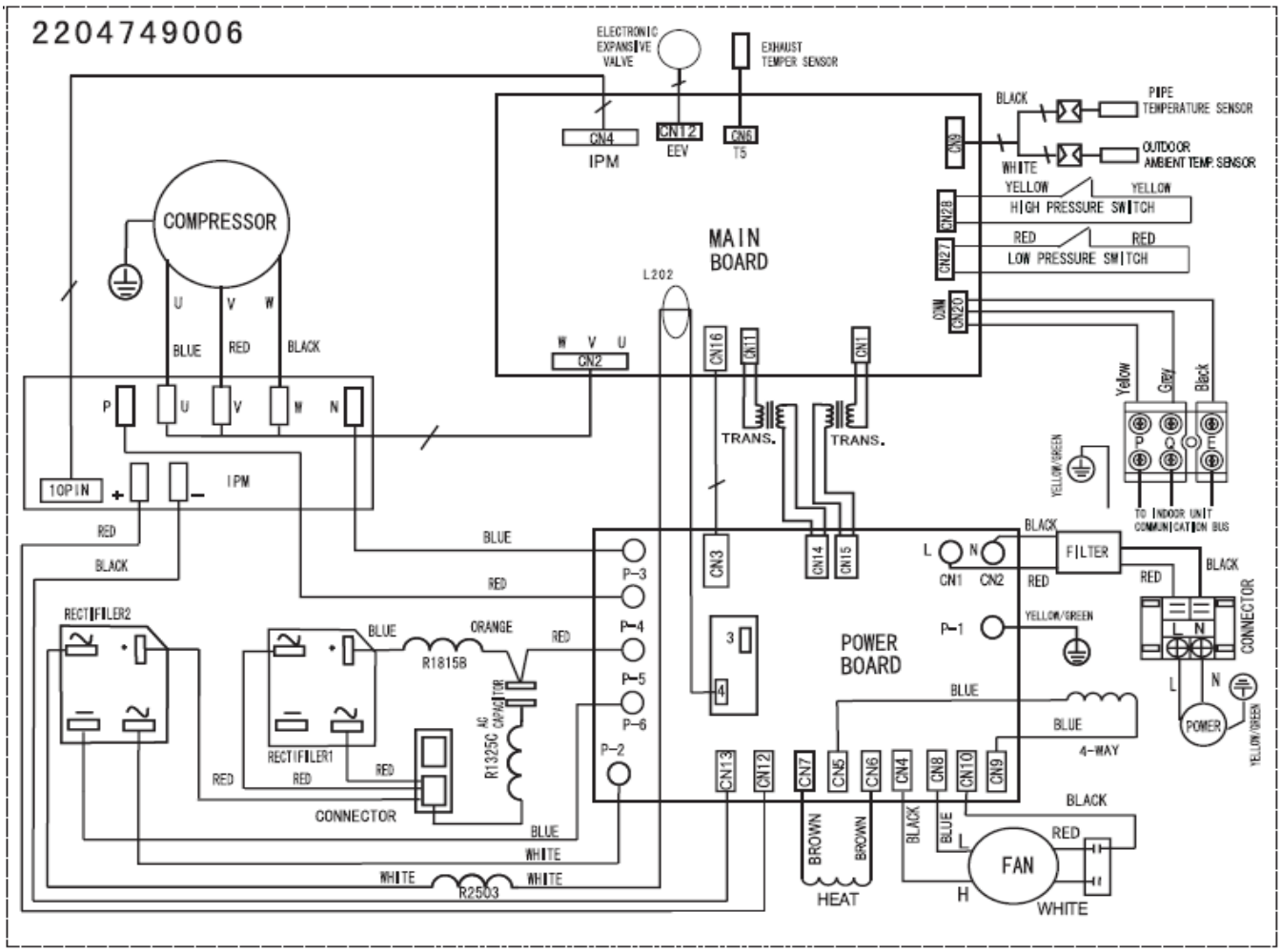
CCT 301 INVo, CFT 35 INV-Ro, DCT 35 INV-So



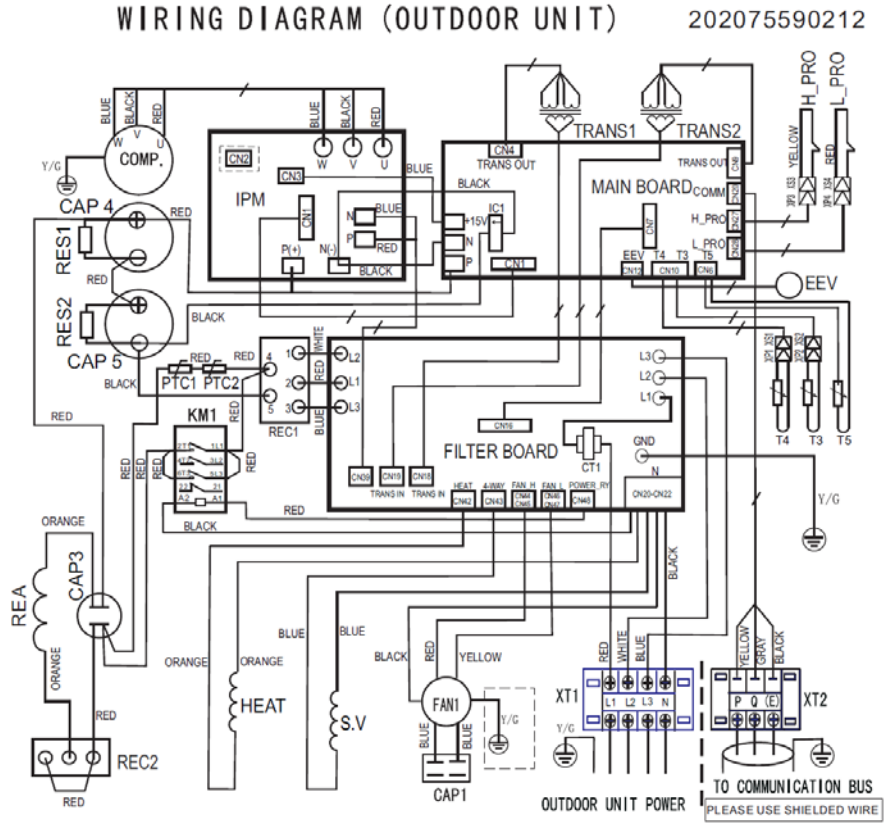
CCT 501 INVo, CCT 50 INV-So, CFT 50 INV-Ro, DCT 50 INV-So



CCT 70 INV-So, CFT 70 INV-Ro, DCT 70 INV-So



CCT 100 INV-So, CFT 100 INV-Ro, DCT 100 INV-So

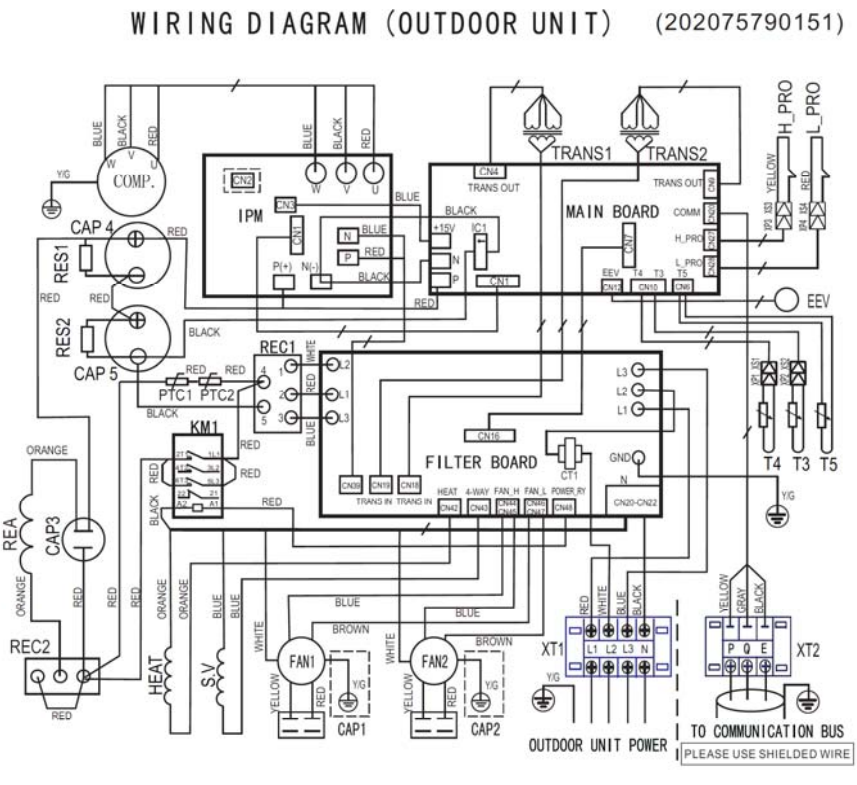


CODE	PART NAME
COMP.	COMPRESSOR
CAP1-CAP5	CAPACITOR
CT1, IC1	CURRENT DETECTOR
EEV	ELECTRIC EXPANSIVE VALVE
FAN1	OUTDOOR FAN MOTOR
HEAT	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
KM1	AC CONTACTOR
PTC1,PTC2	PTC ELEMENT
REA	REACTOR
REC1,REC2	RECTIFIER
RES1,RES2	RESISTANCE
S.V	4-WAY VALVE
TRANS1,TRANS2	TRANSFORMOR
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
T5	COMP. DISCHARGE TEMPERATURE SENSOR
XS1-XS2	CONNECTOR
XP1-XP2	CONNECTOR
XT1	4-WAY TERMINAL
XT2	SMALL 3-WAY TERMINAL

Malfunction Code for Outdoor unit

Display	Malfunction or Protection
E0	EEPROM malfunction
E2	Communication malfunction between indoor/outdoor units
E3	Communication malfunction of outdoor unit controller
E4	Outdoor unit temperature sensor malfunction
E5	Power voltage protection
P1	High pressure protection
P2	Low pressure protection
P3	Current protection
P4	Compressor discharge temperature protection
P5	Condenser high temperature protection
P6	Inverter module protection

CCT 140 INV-So, CFT 140 INV-Ro, DCT 140 INV-So,
CCT 170 INV-So, CFT 170 INV-Ro, DCT 170 INV-So

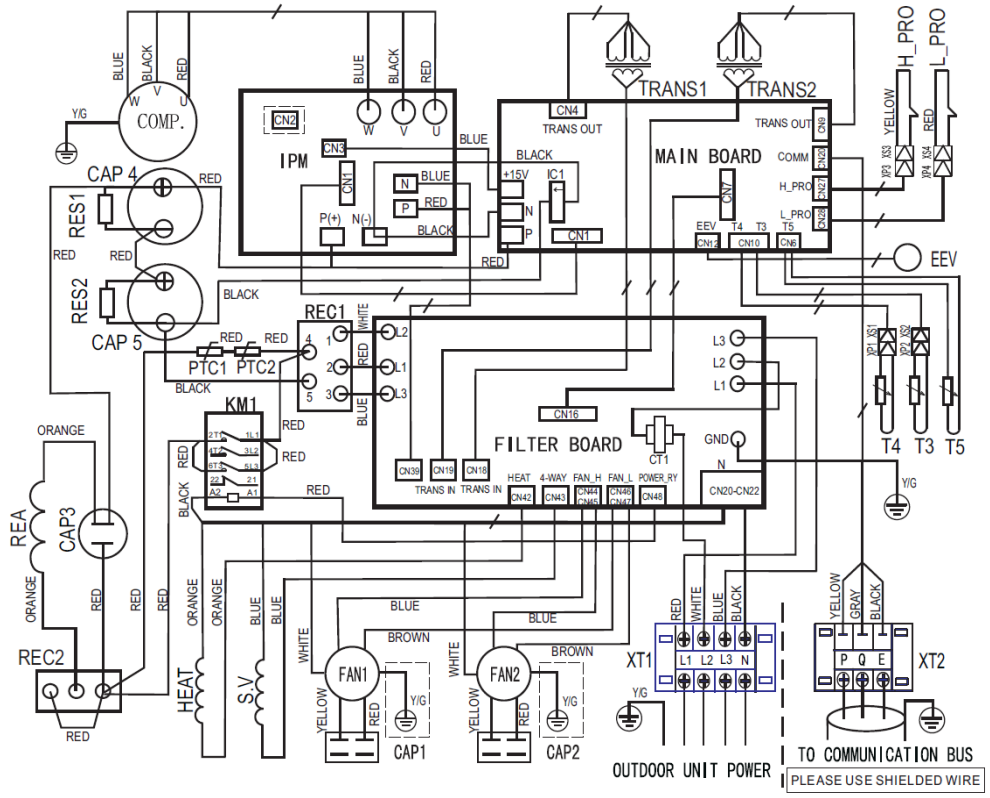


CODE	PART NAME
COMP.	COMPRESSOR
CAP1-CAP5	CAPACITANCE
CT1,IC1	CURRENT DETECTOR
EEV	ELECTRIC EXPANSIVE VALVE
FAN1,FAN2	OUTDOOR FAN MOTOR
HEAT	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
KM1	AC CONTACTOR
PTC1,PTC2	PTC ELEMENT
REA	REACTOR
REC1,REC2	RECTIFIER
RES1,RES2	RESISTANCE
S.V	4-WAY VALVE
TRANS1,TRANS2	TRANSFORMOR
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
T5	COMP. DISCHARGE TEMPERATURE SENSOR
XS1-XS2	CONNECTOR
XP1-XP2	CONNECTOR
XT1	4-WAY TERMINAL
XT2	SMALL 3-WAY TERMINAL

Malfunction Code for Outdoor unit

Display	Malfunction or Protection
E0	EEPROM malfunction
E2	Communication malfunction between indoor/outdoor units
E3	Communication malfunction of outdoor unit controller
E4	Outdoor unit temperature sensor malfunction
E5	Power voltage protection
P1	High pressure protection
P2	Low pressure protection
P3	Current protection
P4	Compressor discharge temperature protection
P5	Condenser high temperature protection
P6	Inverter module protection

DHP 170 INV -Ro

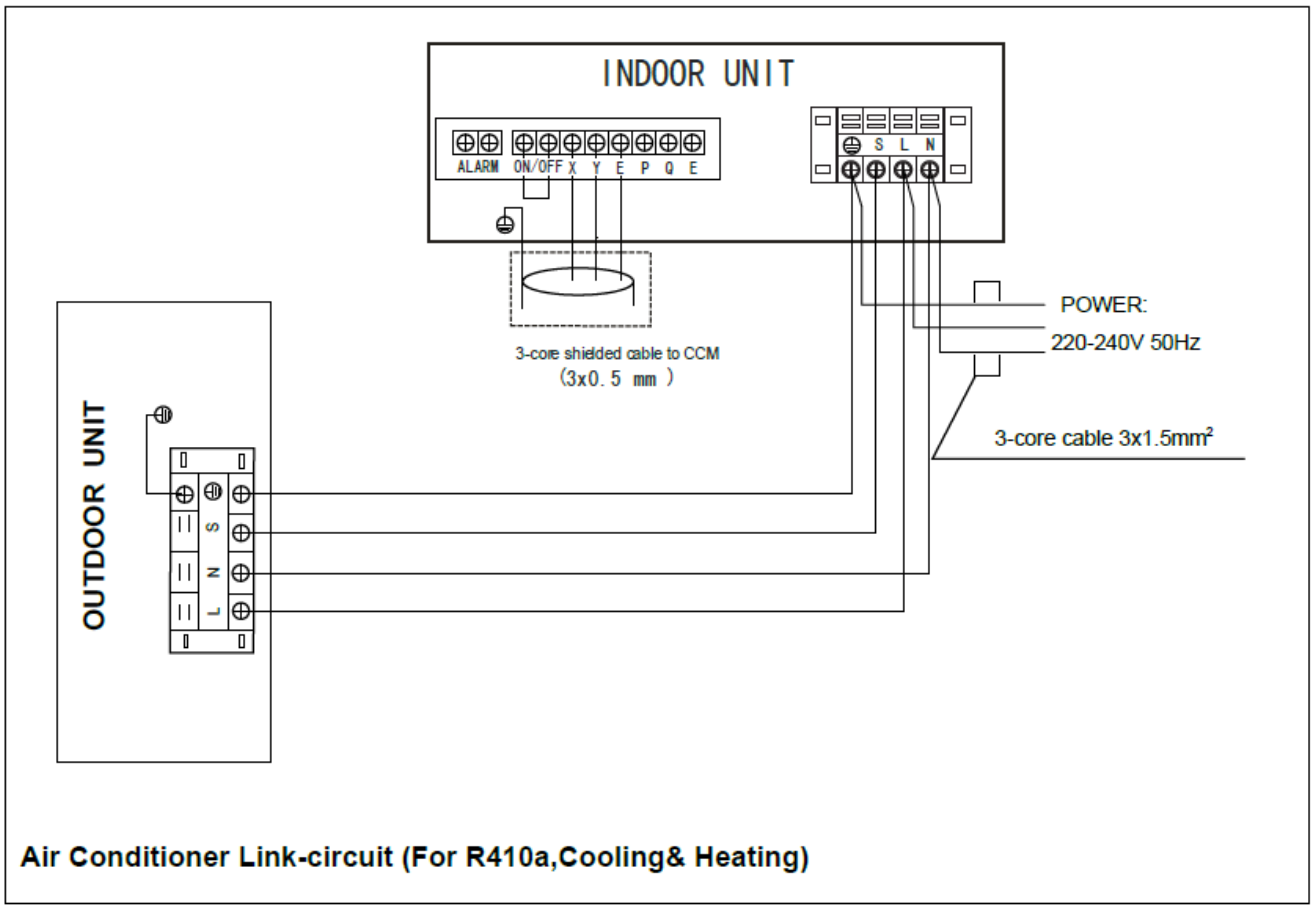


CODE	PART NAME
COMP.	COMPRESSOR
CAP1-CAP5	CAPACITANCE
CT1,IC1	CURRENT DETECTOR
EEV	ELECTRIC EXPANSIVE VALVE
FAN1,FAN2	OUTDOOR FAN MOTOR
HEAT	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
KM1	AC CONTACTOR
PTC1,PTC2	PTC ELEMENT
REA	REACTOR
REC1,REC2	RECTIFIER
RES1,RES2	RESISTANCE
S.V	4-WAY VALVE
TRANS1,TRANS2	TRANSFORMOR
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
T5	COMP. DISCHARGE TEMPERATURE SENSOR
XS1-XS2	CONNECTOR
XP1-XP2	CONNECTOR
XT1	4-WAY TERMINAL
XT2	SMALL 3-WAY TERMINAL

Malfunction Code for Outdoor unit

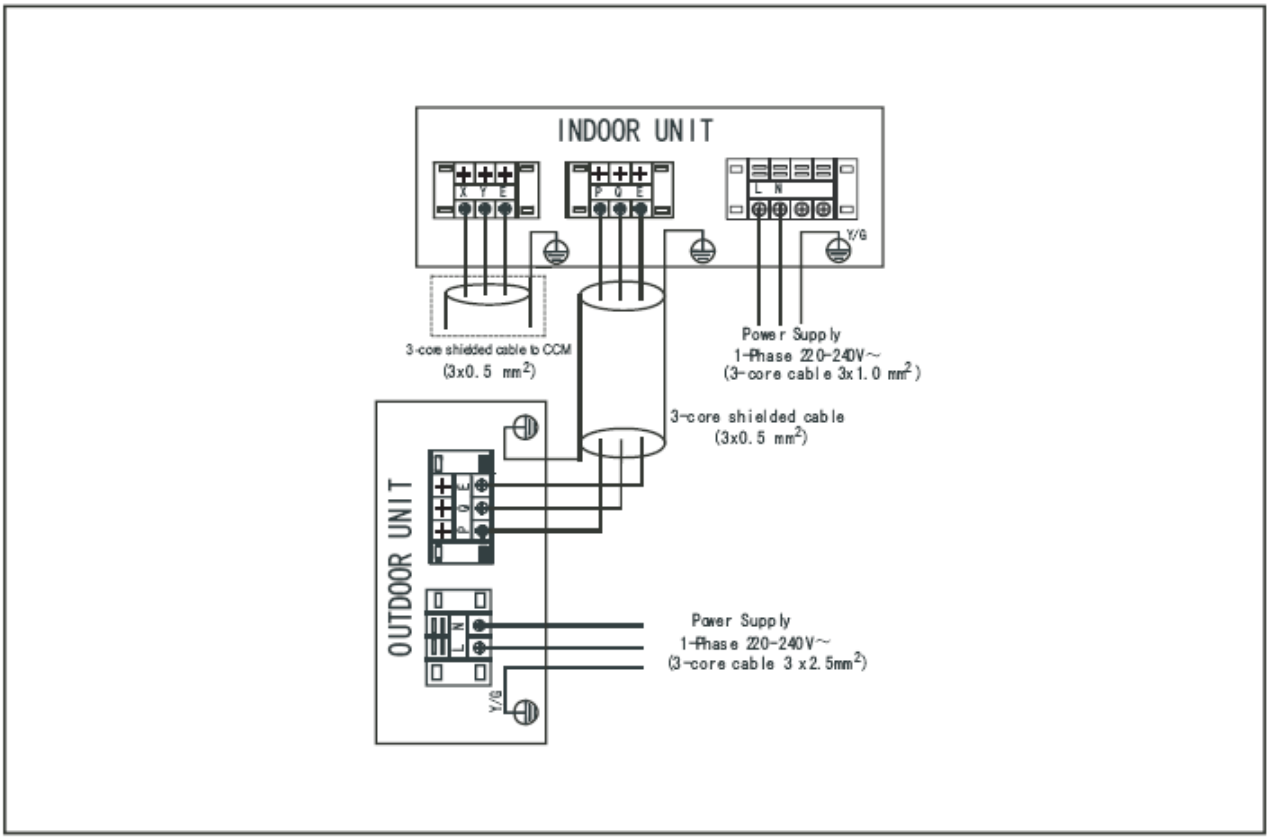
Display	Malfunction or Protection
E0	EEPROM malfunction
E2	Communication malfunction between indoor/outdoor units
E3	Communication malfunction of outdoor unit controller
E4	Outdoor unit temperature sensor malfunction
E5	Power voltage protection
P1	High pressure protection
P2	Low pressure protection
P3	Current protection
P4	Compressor discharge temperature protection
P5	Condenser high temperature protection
P6	Inverter module protection

5. Field Wiring

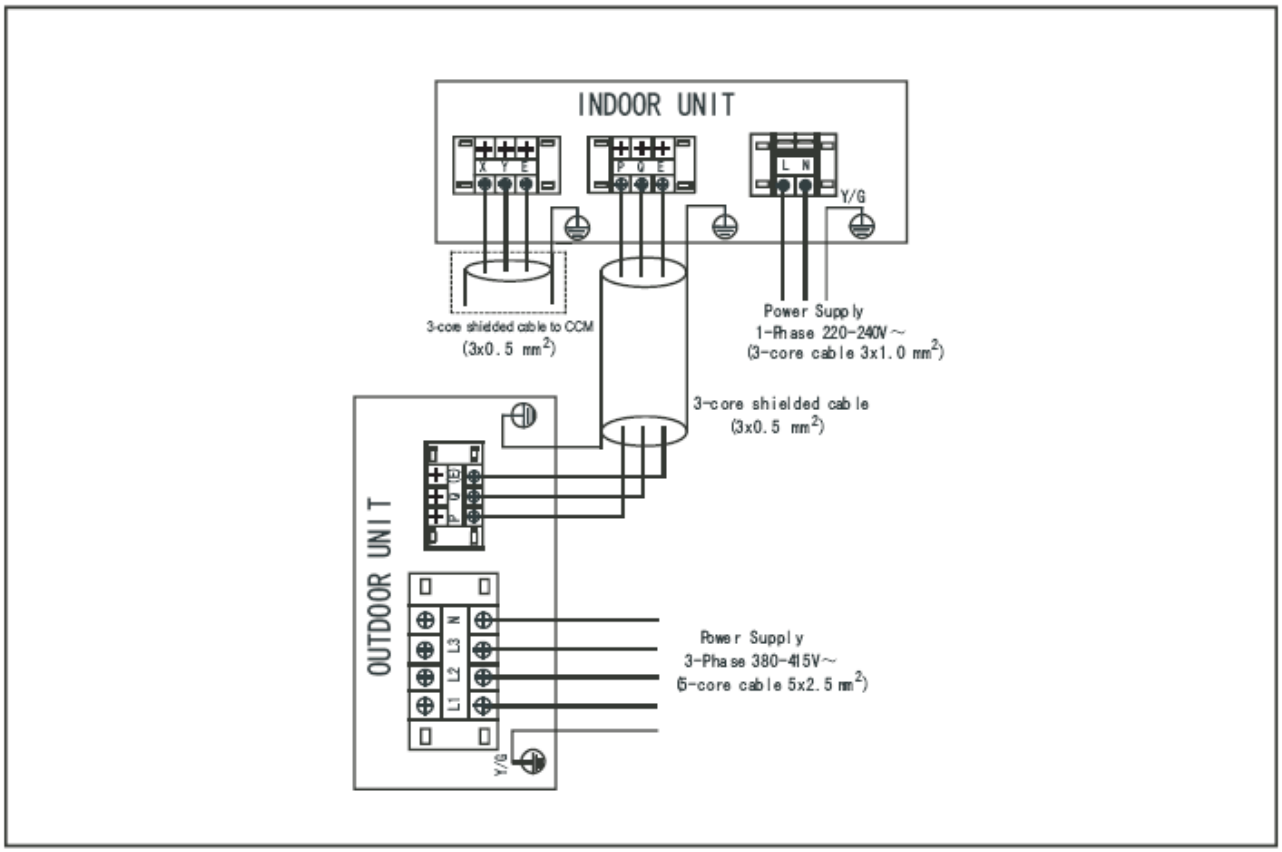


Air Conditioner Link-circuit (For R410a,Cooling& Heating)

For 12000Btu/h (with -1Phase outdoor unit)



For 18000-24000Btu/h (with 1-phase outdoor unit)



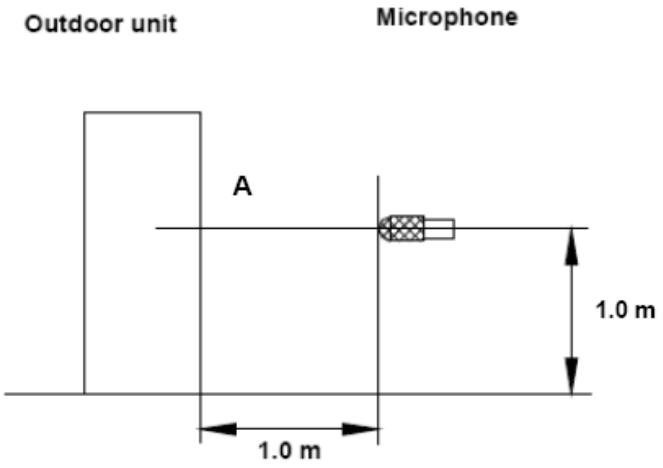
For 36000-60000Btu/h (with 3-phase outdoor unit)

6. Electric Characteristics

Model	Outdoor Unit				Power Supply		Compressor	OFM	
	Hz	Voltage	Min.	Max.	TOCA	MFA	RLA	kW	FLA
CCT 301 INVo CFT 35 INV-Ro DCT 35 INV-So	50	220-240	198	254	10	30	5.3	0.024	0.3
CCT 501 INVo CCT 50 INV-So CFT 50 INV-Ro DCT 50 INV-So	50	220-240	198	254	20	30	8.96	0.053	0.59
CCT 70 INV-So CFT 70 INV-Ro DCT 70 INV-So	50	220-240	198	254	20	30	10.4	0.053	0.67
CCT 90 INV-So CFT 90 INV-Ro DCT 90 INV-So	50	220-240	198	254	20	40	13.5	0.2	1.4
CCT 100 INV-So-1 CFT 100 INV-Ro-1 DCT 100 INV-So-1	50	220-240	198	254	30	40	13.6	0.1×2	0.8
CCT 140 INV-So-1 CFT 140 INV-Ro-1 DCT 140 INV-So-1	50	220-240	198	254	30	40	13.6	0.1×2	0.8
CCT 100 INV-So CFT 100 INV-Ro DCT 100 INV-So	50	380	342	440	20	40	9.3	0.2	1.4
CCT 140 INV-So CFT 140 INV-Ro DCT 140 INV-So	50	380	342	440	20	40	9.3	0.1×2	0.8×2
CCT 170 INV-So CFT 170 INV-Ro DCT 170 INV-So	50	380	342	440	20	40	15.2	0.1×2	0.8×2
DHP 170 INV -Ro	50	380-415	342	440	20	40	15.2	0.1×2	0.8×2

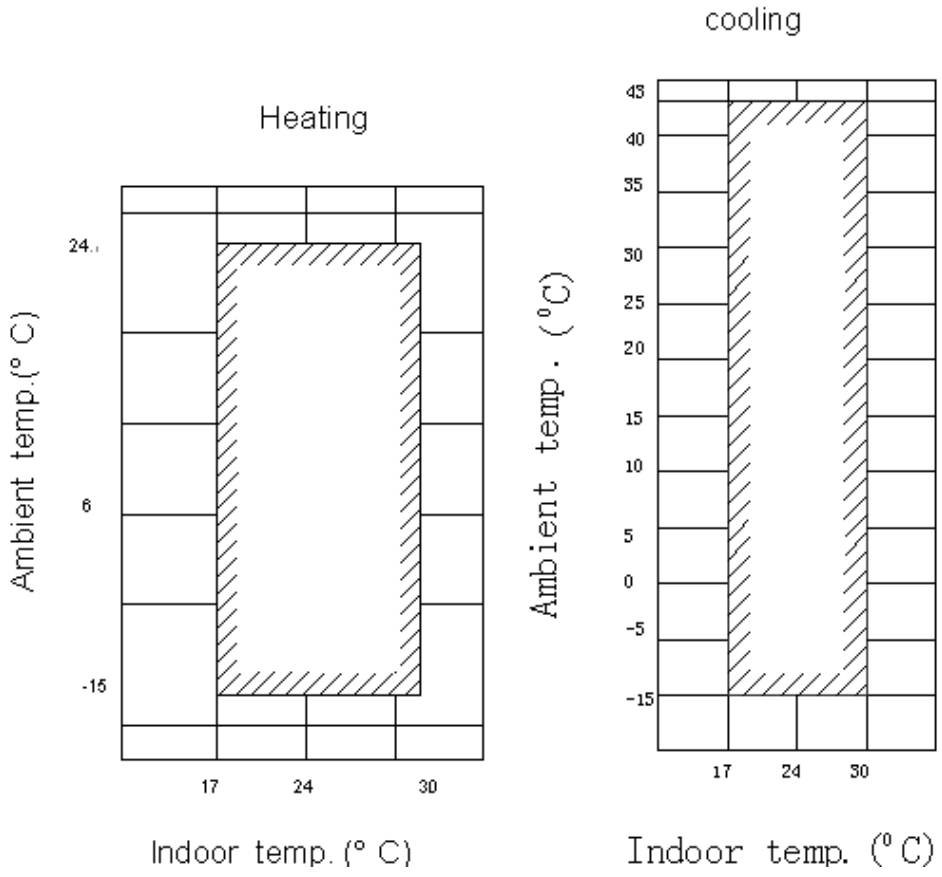
Remark:
TOCA: Total Over-current Amps. (A)
MFA: Max. Fuse Amps. (A)
RLA: Rated Locked Amps. (A)
OFM: Outdoor Fan Motor.
FLA: Full Load Amps. (A)
KW: Rated Motor Output (KW)

7. Sound Levels



Model	Noise level dB(A)
	H/L
CCT 301 INVo **CFT 35 INV-Ro** **DCT 35 INV-So**	48/44
CCT 501 INVo **CCT 50 INV-So** **CFT 50 INV-Ro** **DCT 50 INV-So**	51/46
CCT 70 INV-So **CFT 70 INV-Ro** **DCT 70 INV-So**	58/55
CCT 90 INV-So **CFT 90 INV-Ro** **DCT 90 INV-So**	55/50
CCT 100 INV-So-1 **CFT 100 INV-Ro-1** **DCT 100 INV-So-1**	57/52
CCT 140 INV-So-1 **CFT 140 INV-Ro-1** **DCT 140 INV-So-1**	59/54
CCT 100 INV-So **CFT 100 INV-Ro** **DCT 100 INV-So**	55/50
CCT 140 INV-So **CFT 140 INV-Ro** **DCT 140 INV-So**	59/54
CCT 170 INV-So **CFT 170 INV-Ro** **DCT 170 INV-So**	59/54
DHP 170 INV -Ro	59/54

9. Operation Limits

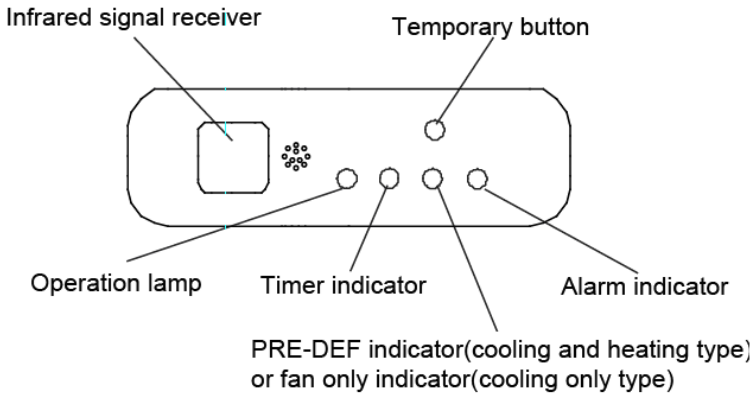


10. Troubleshooting

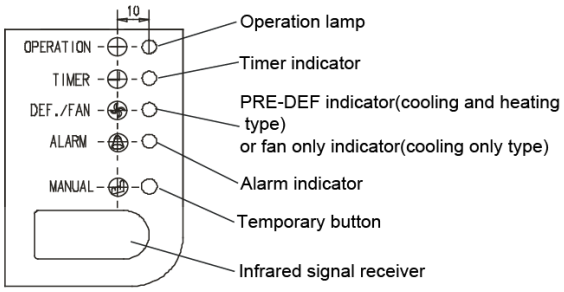
10.1 Indoor unit malfunction

10.1.1 Display board

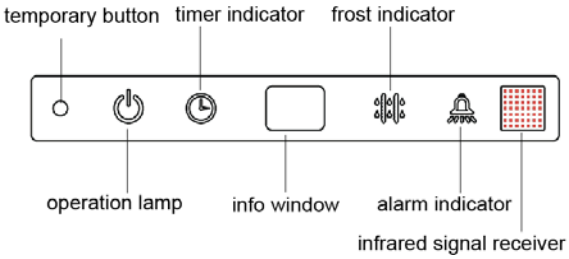
Compact 4-way cassette



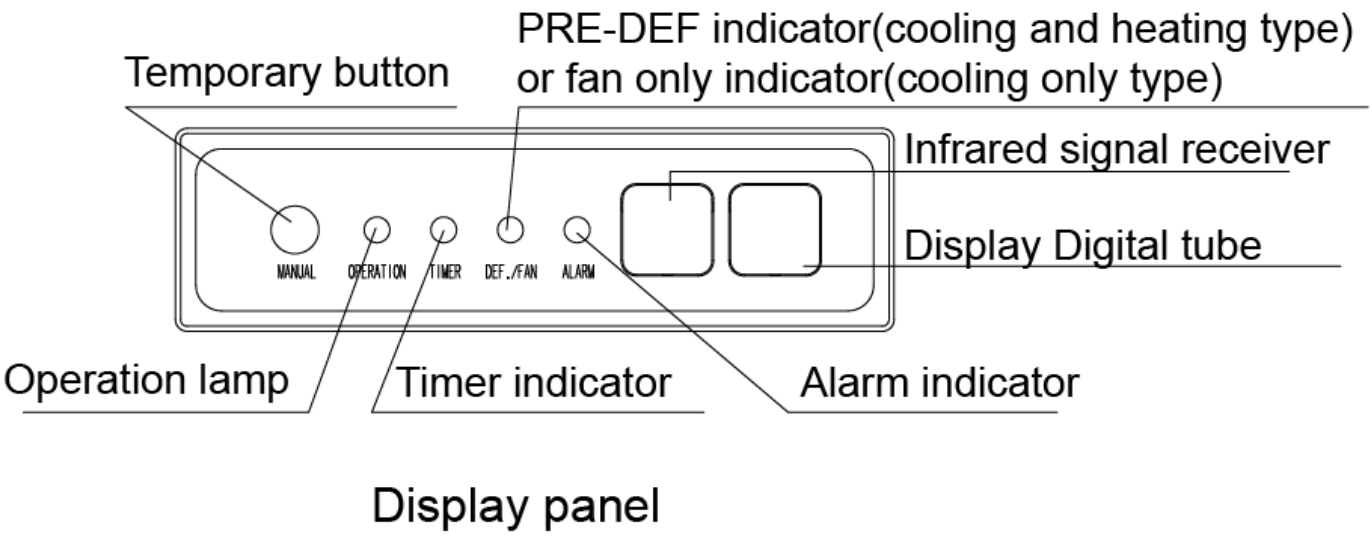
Ceiling & Floor



Normal 4-way cassette



Duct



10.1.2 Troubleshooting

For Normal 4-way cassette

No	Malfunction	Operation lamp	Timer lamp	Defrosting lamp	Alarm lamp	Display
1	Communication malfunction between in-outdoor unit		LED2 Quick-flash			E1
2	Room temperature sensor malfunction	LED1 Quick-flash				E2
3	Pipe temperature sensor malfunction	LED1 Quick-flash				E3
4	Pipe temperature sensor malfunction	LED1 Quick-flash				E4
5	Water-level alarm				LED4 Quick-flash	EE
6	EEPROM malfunction	LED1 Slow-flash				E7
7	Mode conflicts malfunction			LED3 Quick-flash		E0
8	Outdoor malfunction				LED4 Slow-flash	Ed

For ceiling & floor & compact 4-way cassette

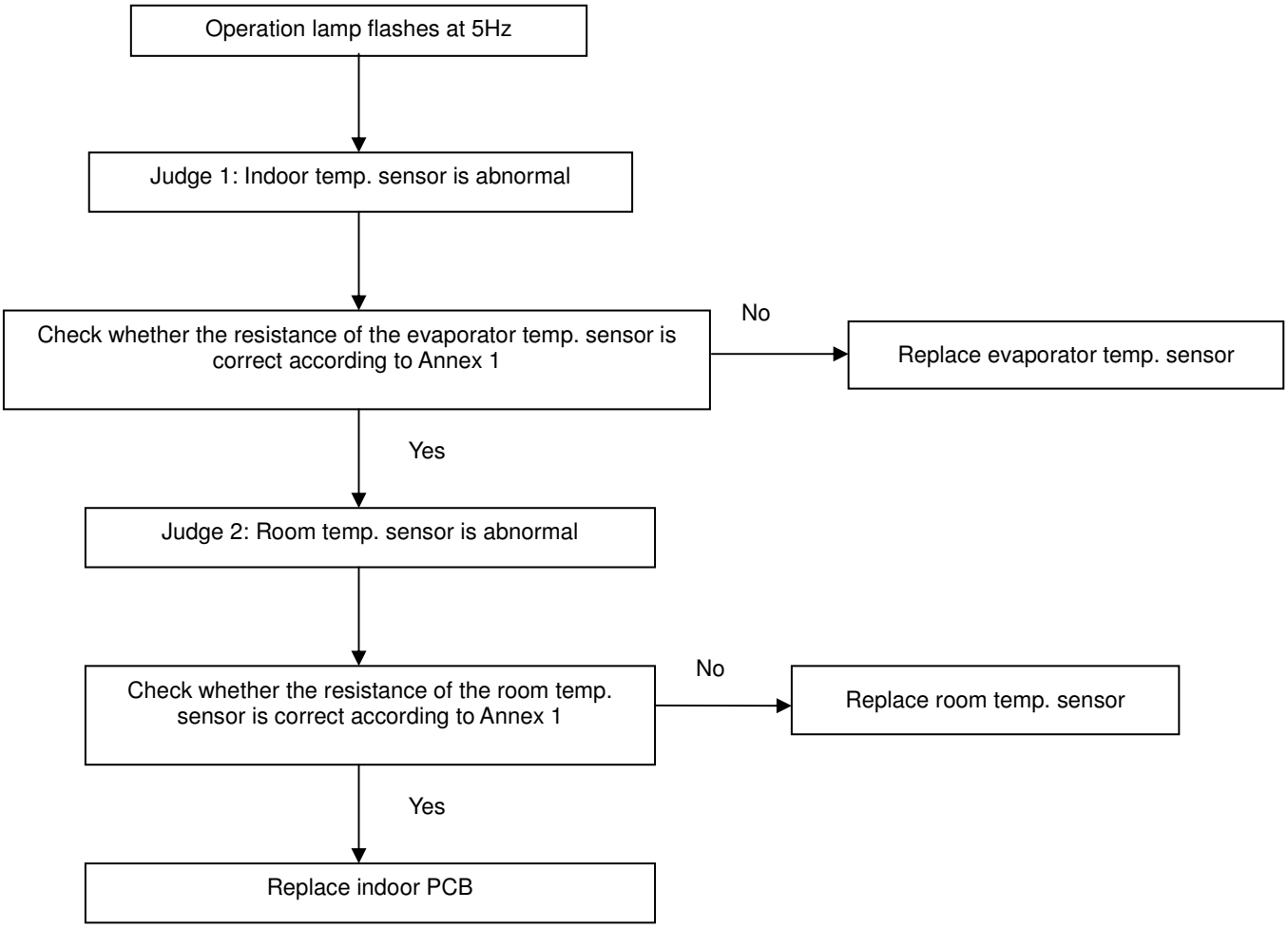
No	Malfunction	Operation lamp	Timer lamp	Defrosting lamp	Alarm lamp
1	Communication malfunction between in-outdoor unit		LED2 Quick-flash		
2	Room temperature sensor malfunction	LED1 Quick-flash			
3	Water-level alarm				LED4 Quick-flash
4	Mode conflicts malfunction			LED3 Quick-flash	
5	Outdoor malfunction				LED4 Slow-flash

For Duct type

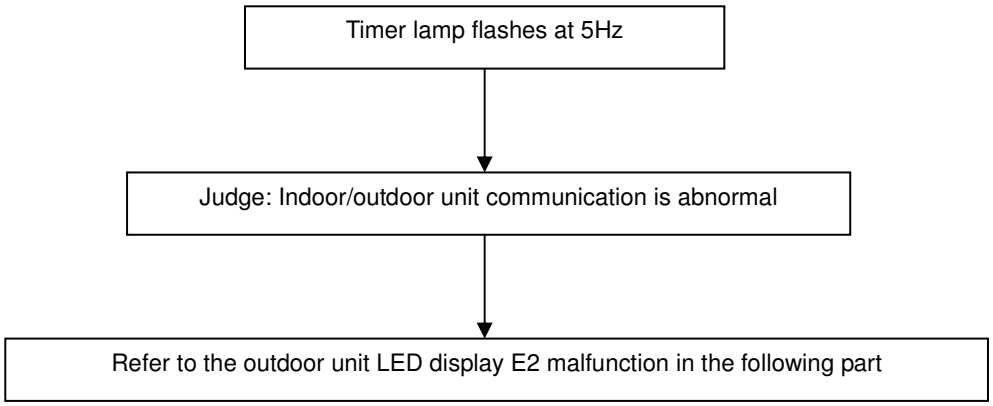
No	Malfunction & protection define	LED1 OPERATION	LED2 TIMER	LED3 DEF.FAN	LED4 ALARM	Display Digital Tube
1	Collision mode malfunction			☆		E0
2	In-Outdoor unit COMM. Checking channel is abnormal		☆			E1
3	Room TEMP. sensor checking channel is abnormal	☆				E2
4	Pipe TEMP. Sensor checking channel is abnormal(T2)	☆				E3
5	Pipe TEMP. Sensor checking channel is abnormal(T2B)	☆				E4
6	EPPROM malfunction	⊙				E7
7	Water-level alarm malfunction				☆	EE
8	Outdoor malfunction				⊙	Ed
9	Be closed by the remote control function	⊙				CP
10	Anti-cold & Defrost	●		●		

● Extinguish ☆Flashing at 5HZ ⊙Flashing at 1HZ

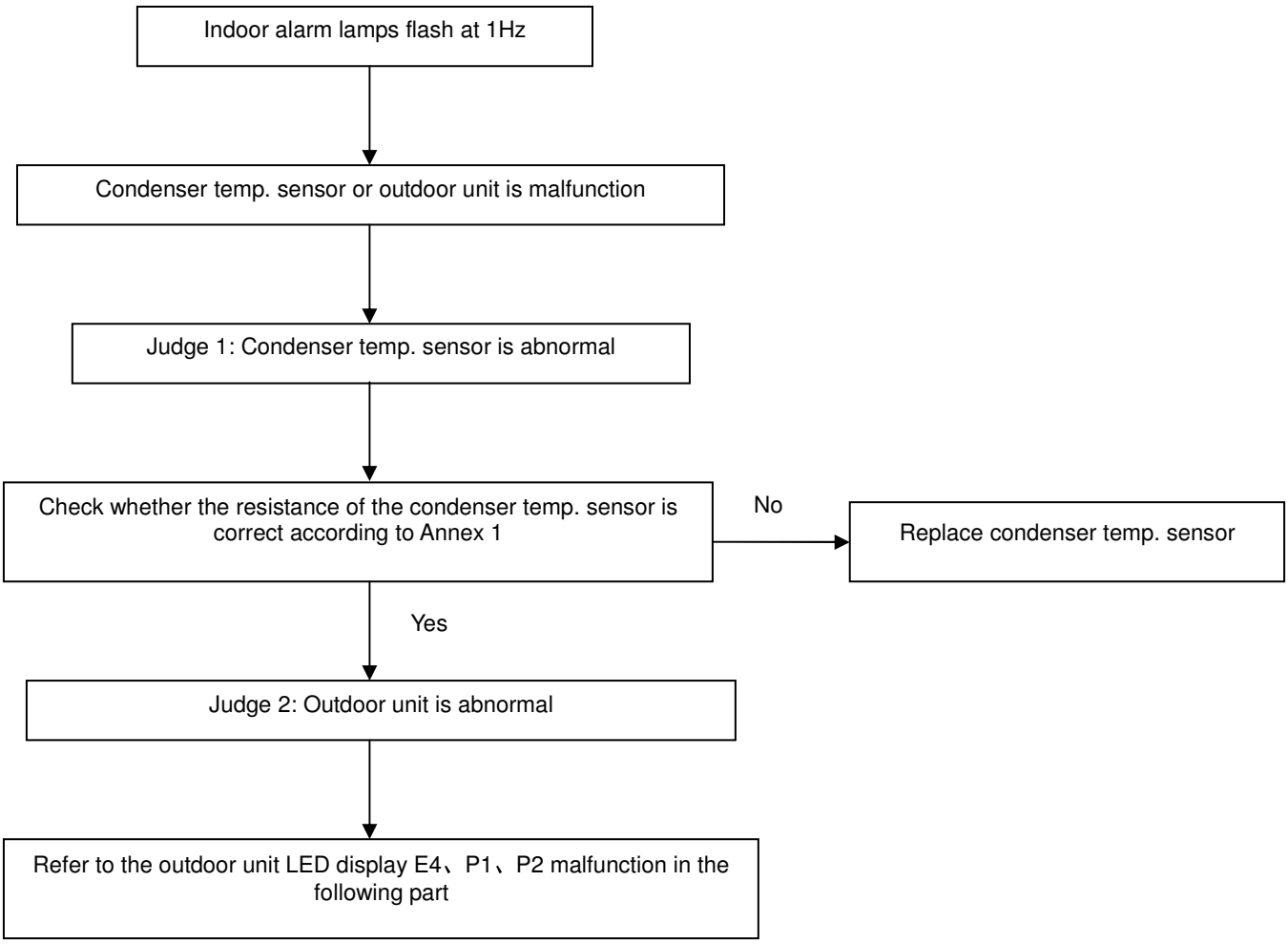
1. Operation lamp flashes


Operation lamp flashes at 5Hz
Judge 1: Indoor temp. sensor is abnormal
Check whether the resistance of the evaporator temp. sensor is correct according to Annex 1
No
Replace evaporator temp. sensor
Yes
Judge 2: Room temp. sensor is abnormal
Check whether the resistance of the room temp. sensor is correct according to Annex 1
No
Replace room temp. sensor
Yes
Replace indoor PCB

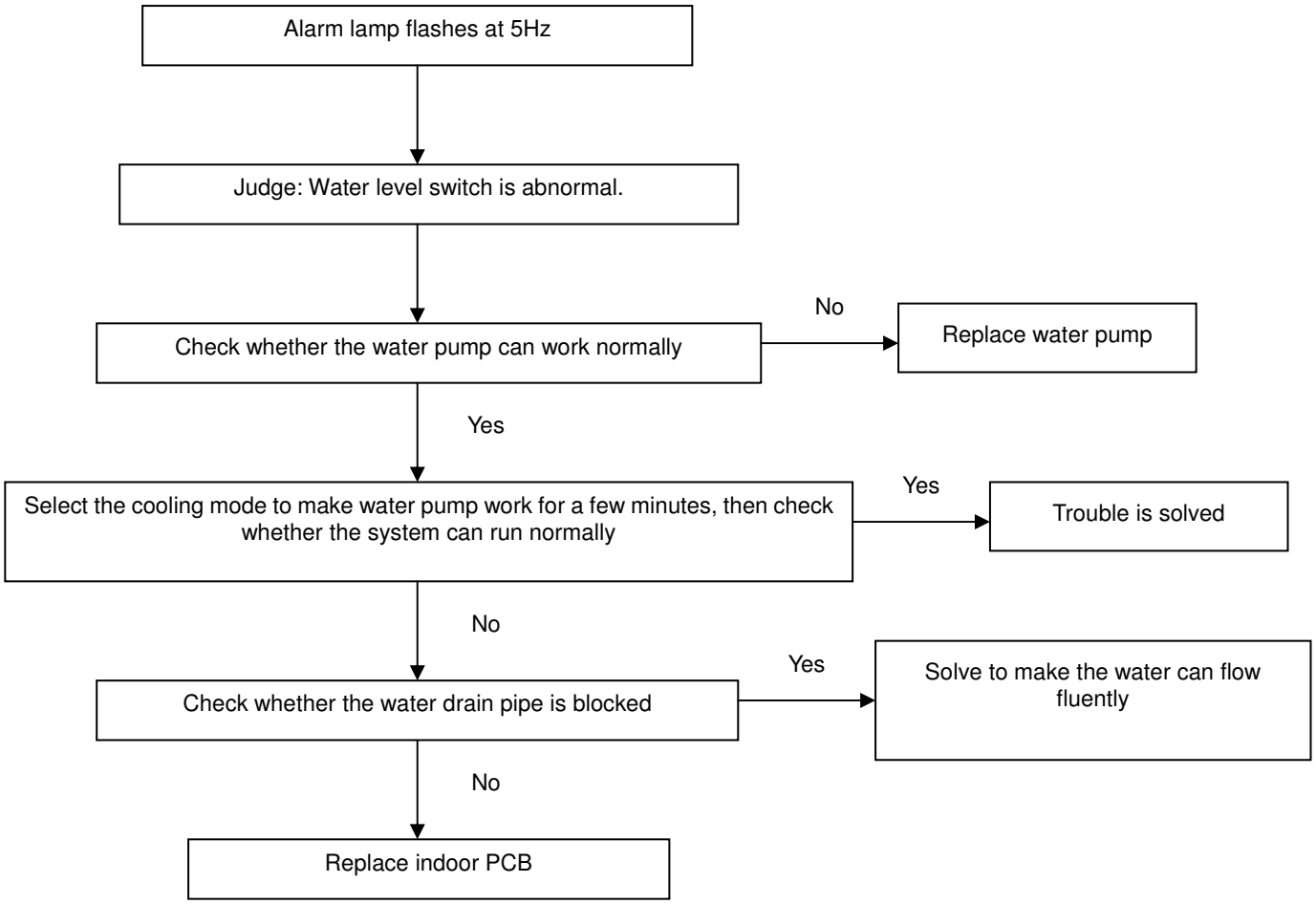
2. Timer lamp flashes


Timer lamp flashes at 5Hz
Judge: Indoor/outdoor unit communication is abnormal
Refer to the outdoor unit LED display E2 malfunction in the following part

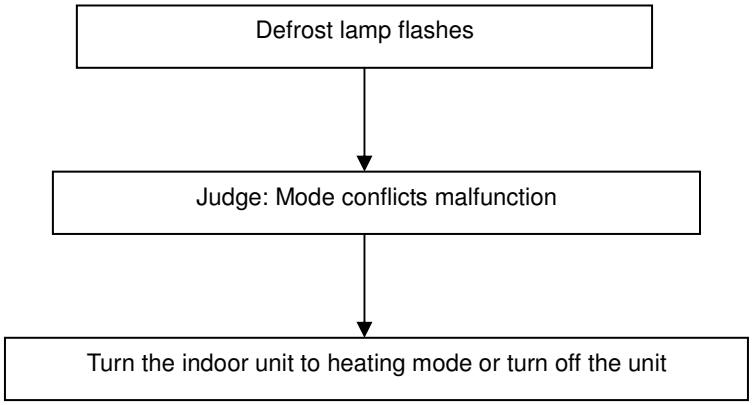
3. Alarm lamp slow-flash


Indoor alarm lamps flash at 1Hz
Condenser temp. sensor or outdoor unit is malfunction
Judge 1: Condenser temp. sensor is abnormal
Check whether the resistance of the condenser temp. sensor is correct according to Annex 1
No
Replace condenser temp. sensor
Yes
Judge 2: Outdoor unit is abnormal
Refer to the outdoor unit LED display E4、P1、P2 malfunction in the following part

4. Alarm lamp quick-flash


Alarm lamp flashes at 5Hz
Judge: Water level switch is abnormal.
Check whether the water pump can work normally
No
Replace water pump
Yes
Select the cooling mode to make water pump work for a few minutes, then check whether the system can run normally
Yes
Trouble is solved
No
Check whether the water drain pipe is blocked
Yes
Solve to make the water can flow fluently
No
Replace indoor PCB

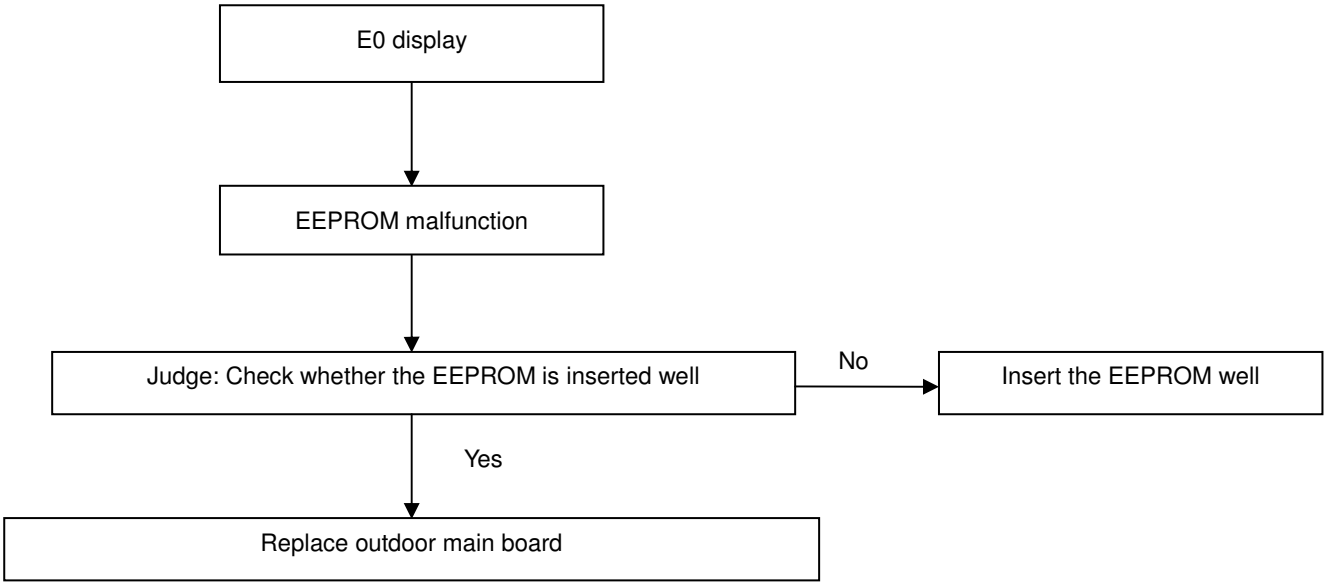
5. Defrost lamp flashes



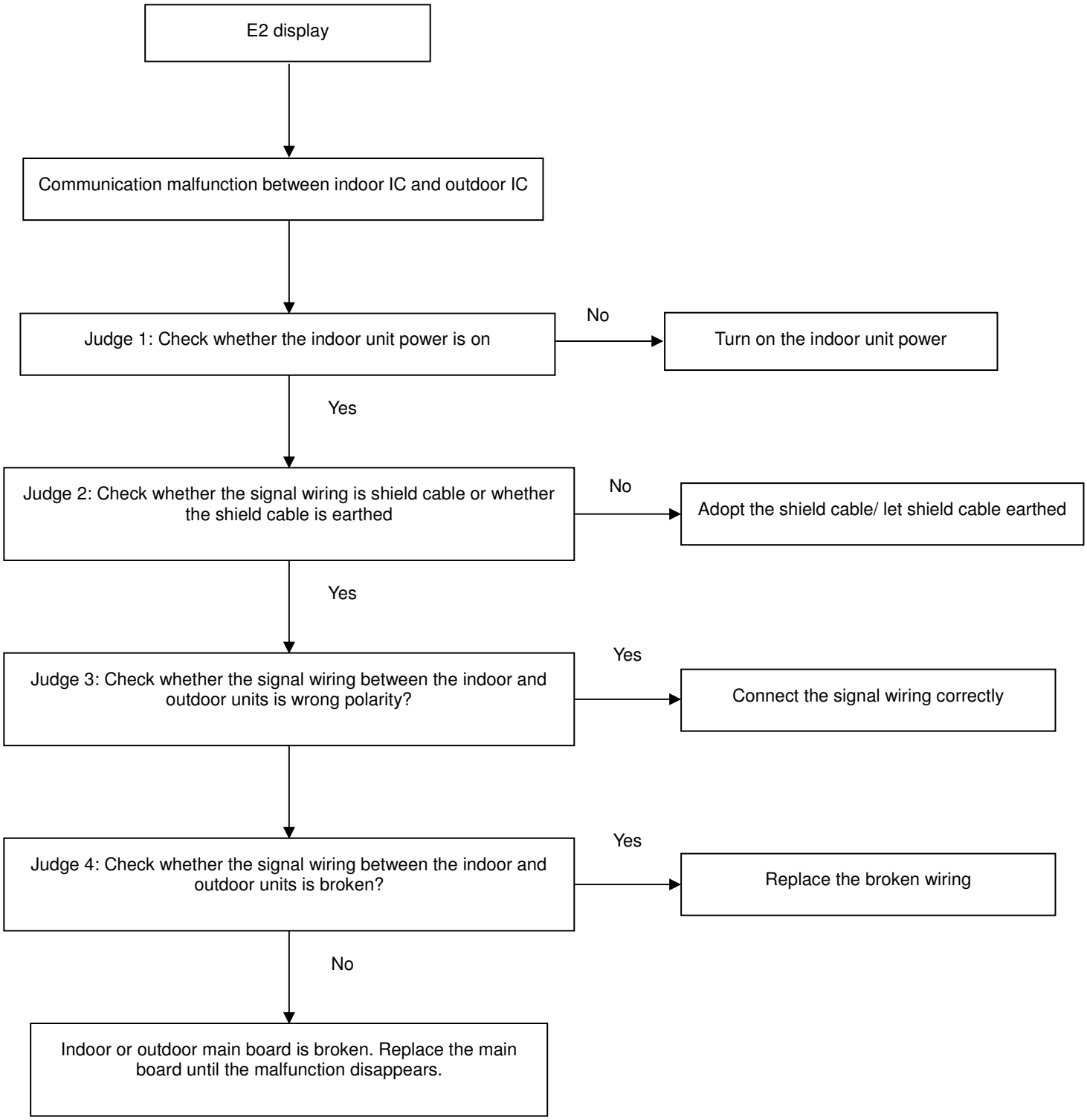
11.2 Outdoor unit malfunction

Display	Malfunction or Protection
E0	EEPROM malfunction
E2	Communication malfunction between indoor IC and outdoor IC
E3	Communication malfunction in outdoor IC and DSP
E4	Malfunction of outdoor temperature sensor
E5	Voltage protection of compressor
E6	PFC module protection (Only for 30K, 36K & 48K with 1 phase)
P0	Top temperature protection of compressor
P1	High pressure protection
P2	Low pressure protection
P3	Current protection of compressor
P4	Discharge temperature protection of compressor
P5	High temperature protection of condenser
P6	Module protection

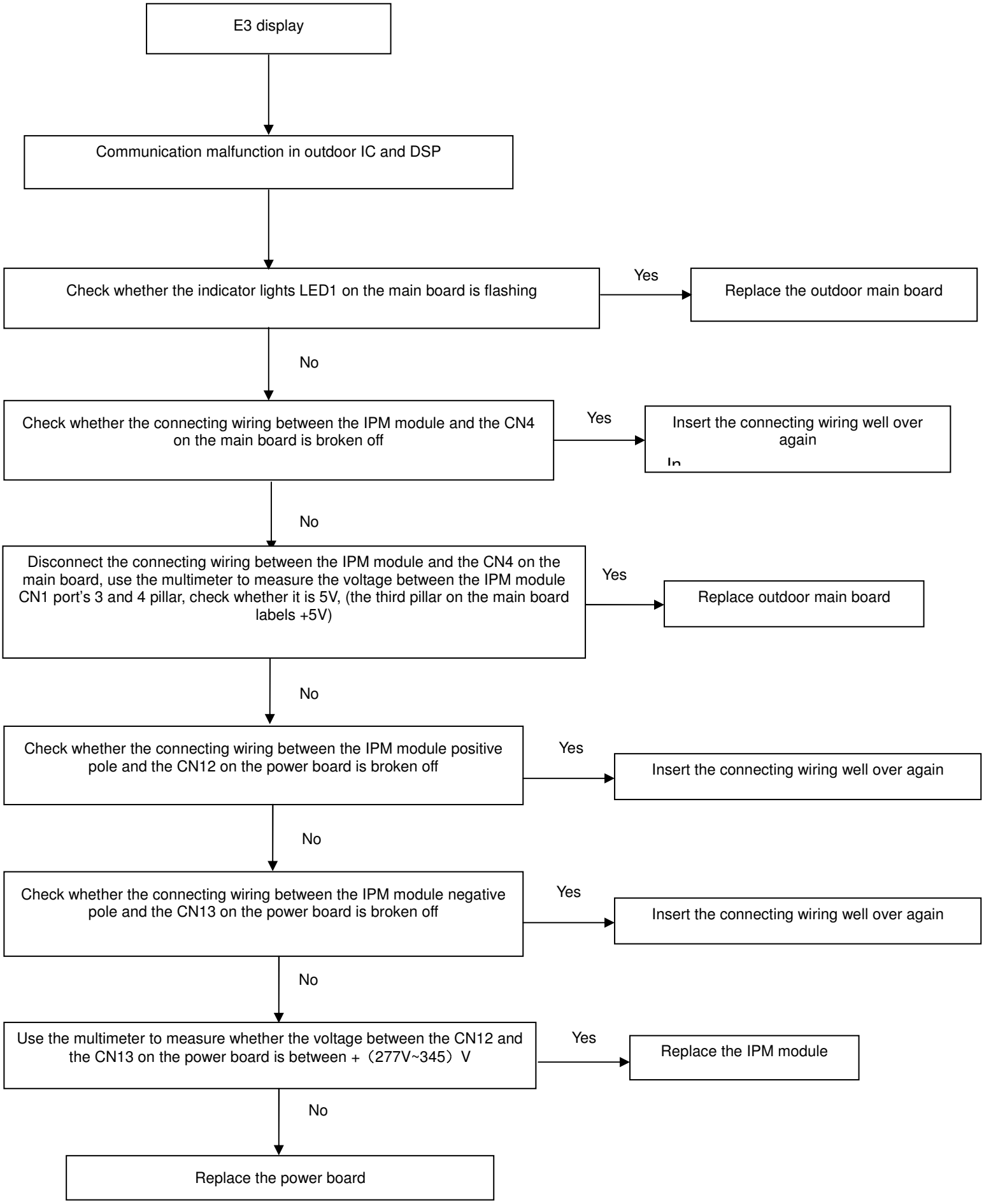
1. E0 malfunction



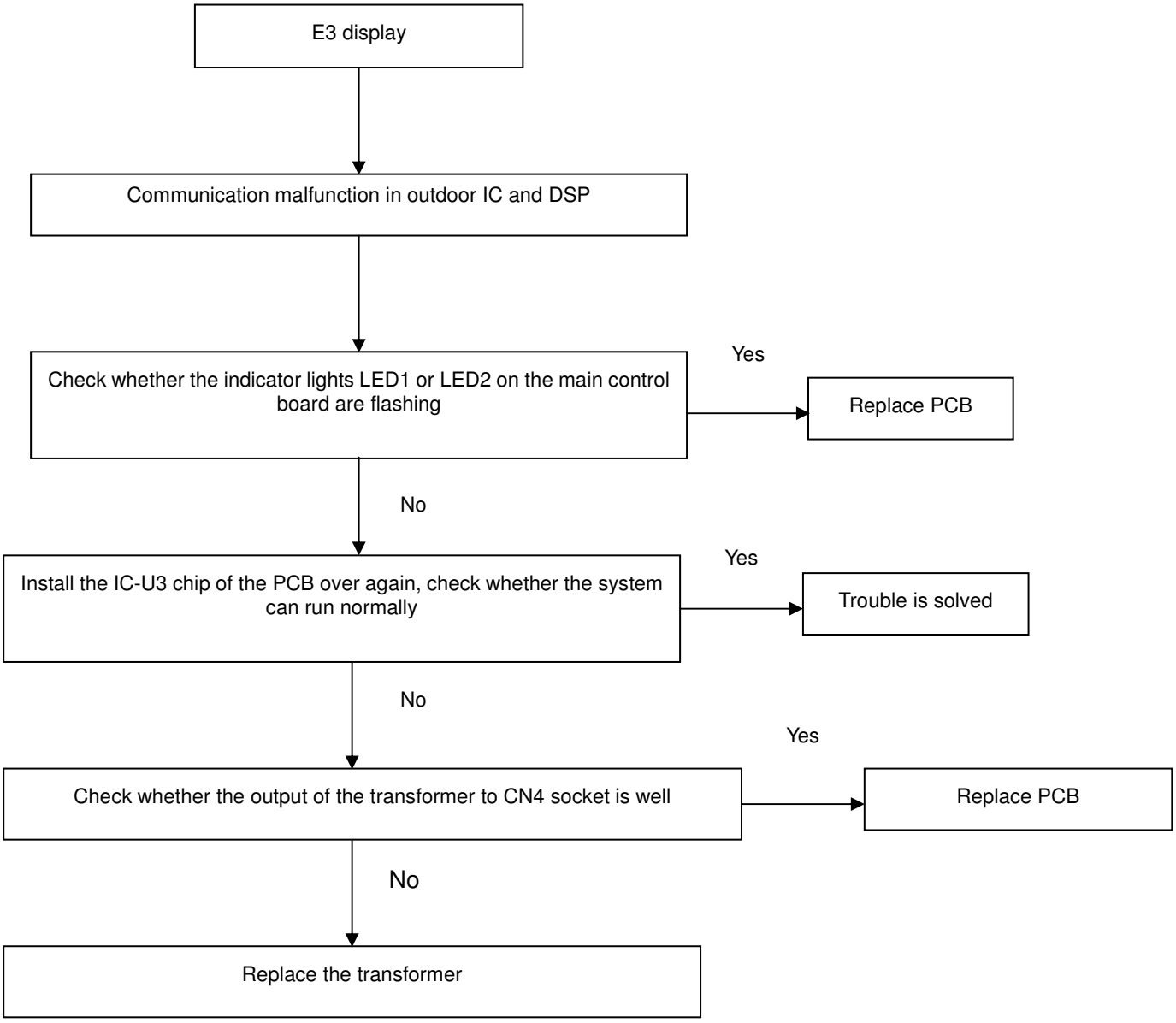
2. E2 malfunction


E2 display
Communication malfunction between indoor IC and outdoor IC
Judge 1: Check whether the indoor unit power is on
No
Turn on the indoor unit power
Yes
Judge 2: Check whether the signal wiring is shield cable or whether the shield cable is earthed
No
Adopt the shield cable/ let shield cable earthed
Yes
Judge 3: Check whether the signal wiring between the indoor and outdoor units is wrong polarity?
Yes
Connect the signal wiring correctly
Judge 4: Check whether the signal wiring between the indoor and outdoor units is broken?
Yes
Replace the broken wiring
No
Indoor or outdoor main board is broken. Replace the main board until the malfunction disappears.

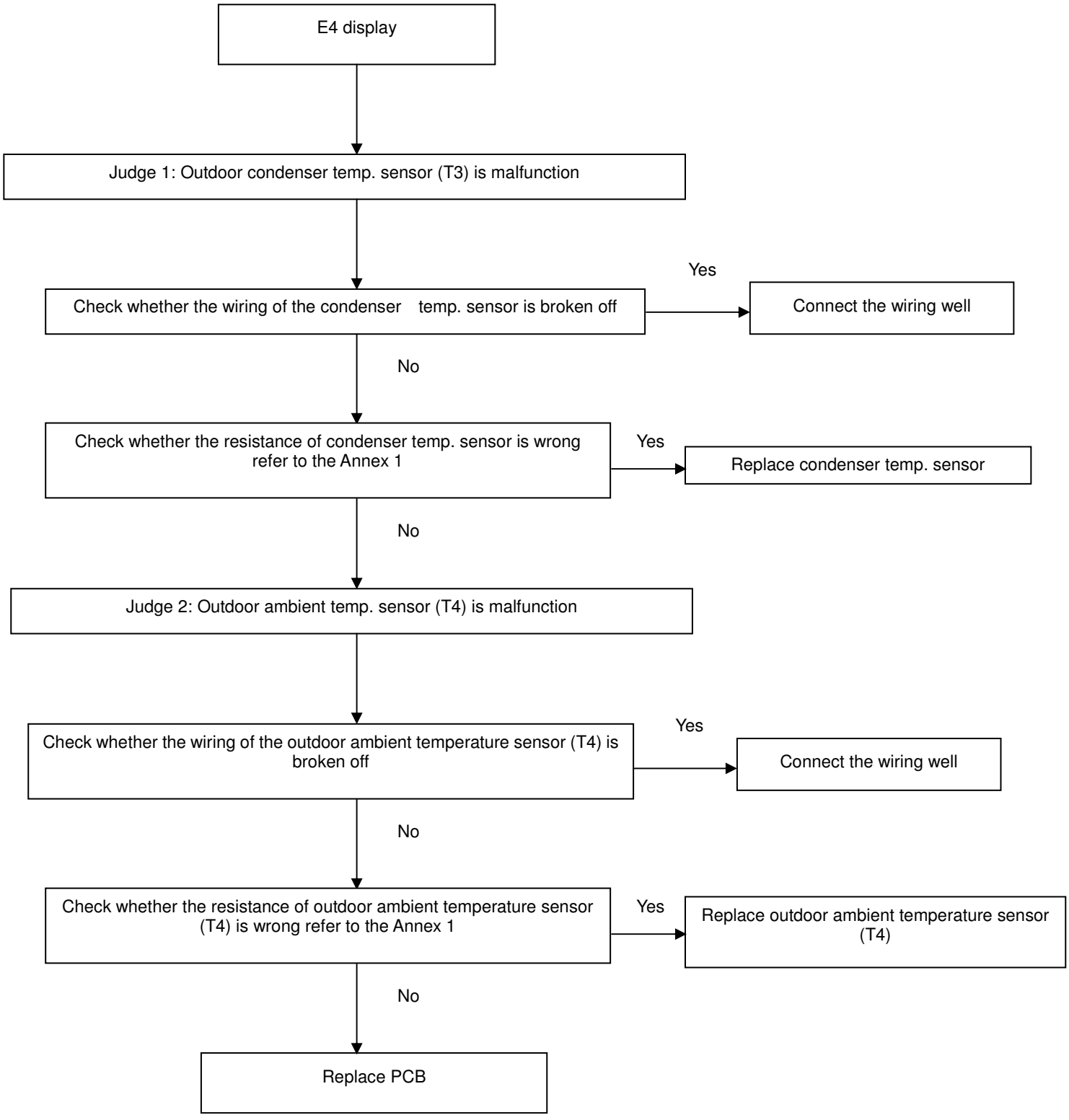
3. E3 malfunction (For 18K & 24K & 30K)


E3 display
Communication malfunction in outdoor IC and DSP
Check whether the indicator lights LED1 on the main board is flashing
Yes
Replace the outdoor main board
No
Check whether the connecting wiring between the IPM module and the CN4 on the main board is broken off
Yes
Insert the connecting wiring well over again
No
Disconnect the connecting wiring between the IPM module and the CN4 on the main board, use the multimeter to measure the voltage between the IPM module CN1 port's 3 and 4 pillar, check whether it is 5V, (the third pillar on the main board labels +5V)
Yes
Replace outdoor main board
No
Check whether the connecting wiring between the IPM module positive pole and the CN12 on the power board is broken off
Yes
Insert the connecting wiring well over again
No
Check whether the connecting wiring between the IPM module negative pole and the CN13 on the power board is broken off
Yes
Insert the connecting wiring well over again
No
Use the multimeter to measure whether the voltage between the CN12 and the CN13 on the power board is between +（277V~345）V
Yes
Replace the IPM module
No
Replace the power board

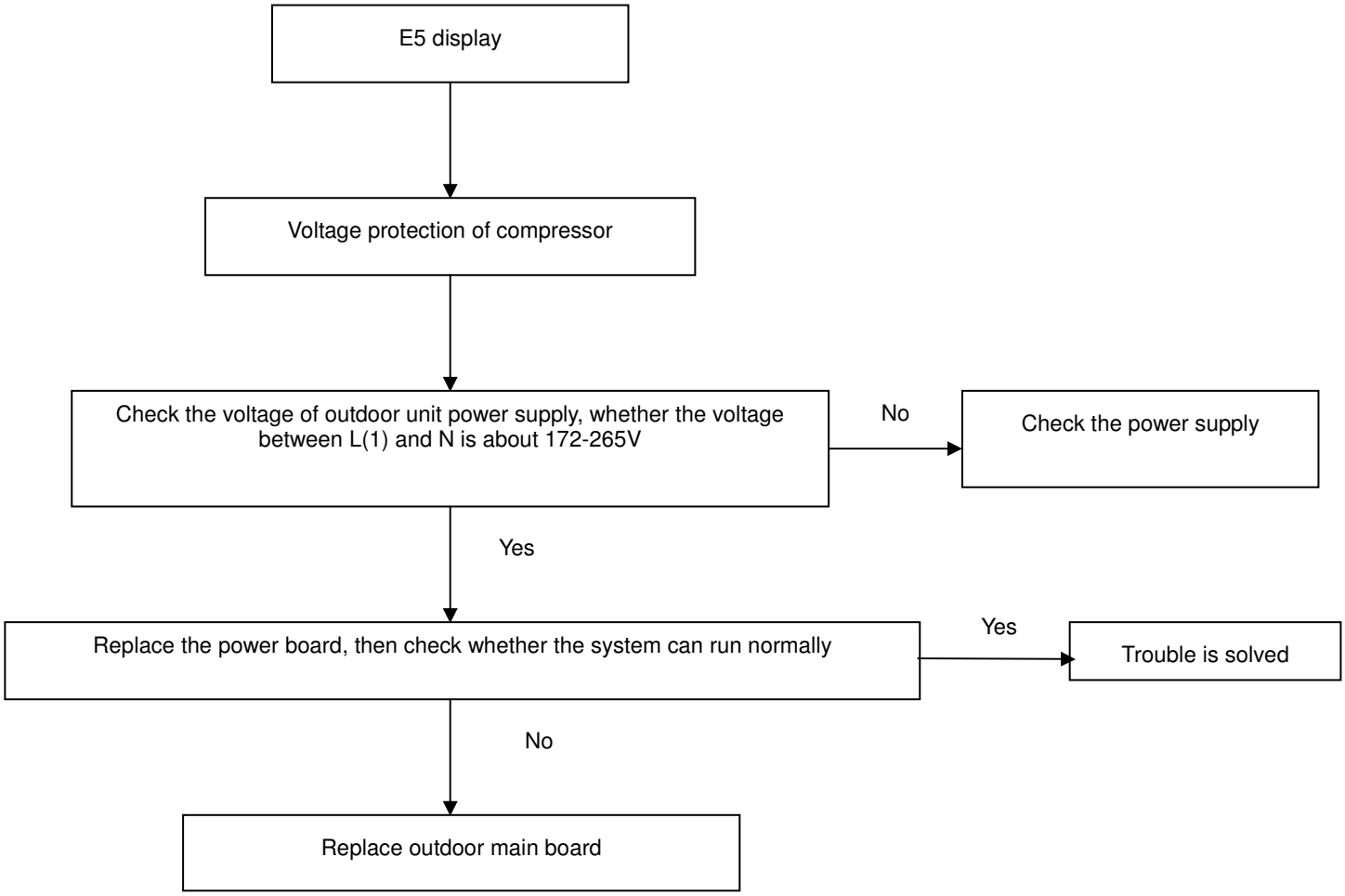
4. E3 malfunction (For 36K & 48K & 60K)


E3 display
Communication malfunction in outdoor IC and DSP
Check whether the indicator lights LED1 or LED2 on the main control board are flashing
Yes
Replace PCB
No
Install the IC-U3 chip of the PCB over again, check whether the system can run normally
Yes
Trouble is solved
No
Check whether the output of the transformer to CN4 socket is well
Yes
Replace PCB
No
Replace the transformer

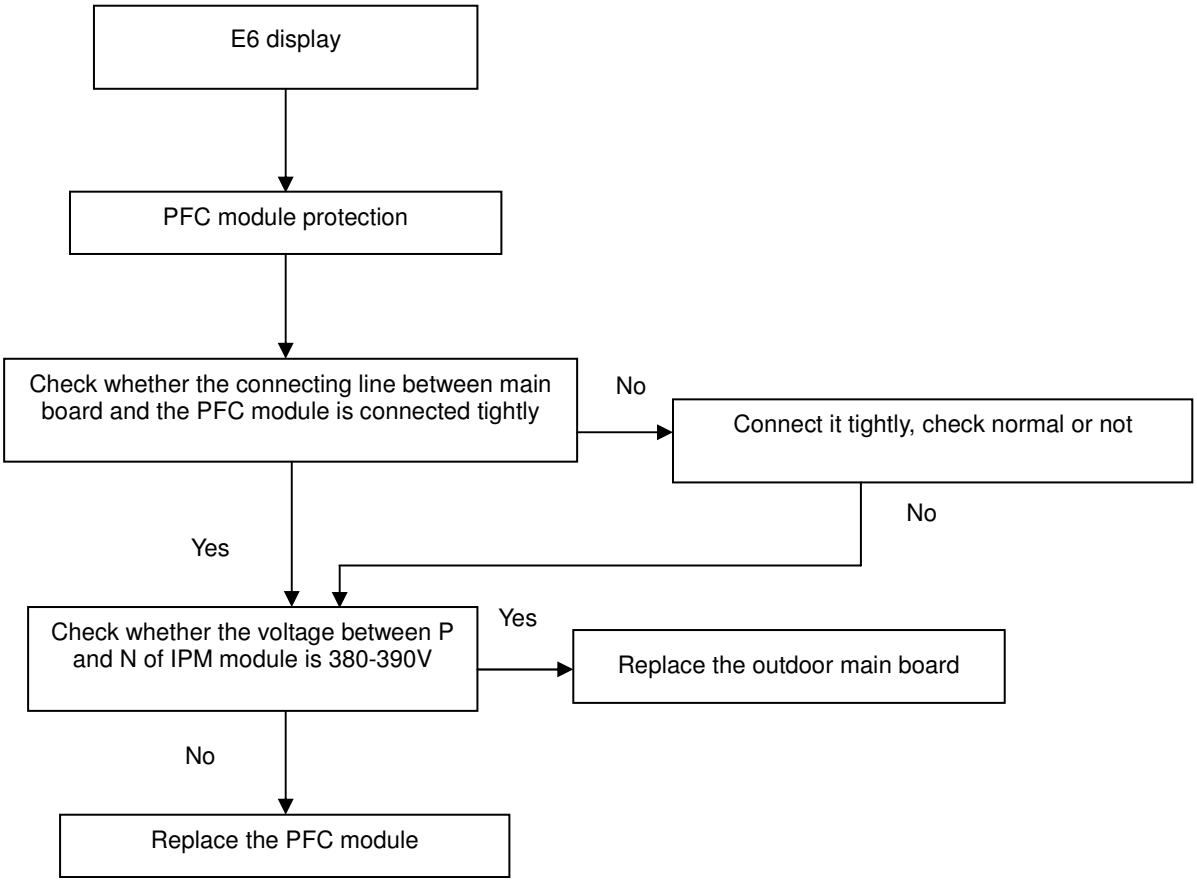
5. E4 malfunction


E4 display
Judge 1: Outdoor condenser temp. sensor (T3) is malfunction
Check whether the wiring of the condenser temp. sensor is broken off
Yes
Connect the wiring well
No
Check whether the resistance of condenser temp. sensor is wrong refer to the Annex 1
Yes
Replace condenser temp. sensor
No
Judge 2: Outdoor ambient temp. sensor (T4) is malfunction
Check whether the wiring of the outdoor ambient temperature sensor (T4) is broken off
Yes
Connect the wiring well
No
Check whether the resistance of outdoor ambient temperature sensor (T4) is wrong refer to the Annex 1
Yes
Replace outdoor ambient temperature sensor (T4)
No
Replace PCB

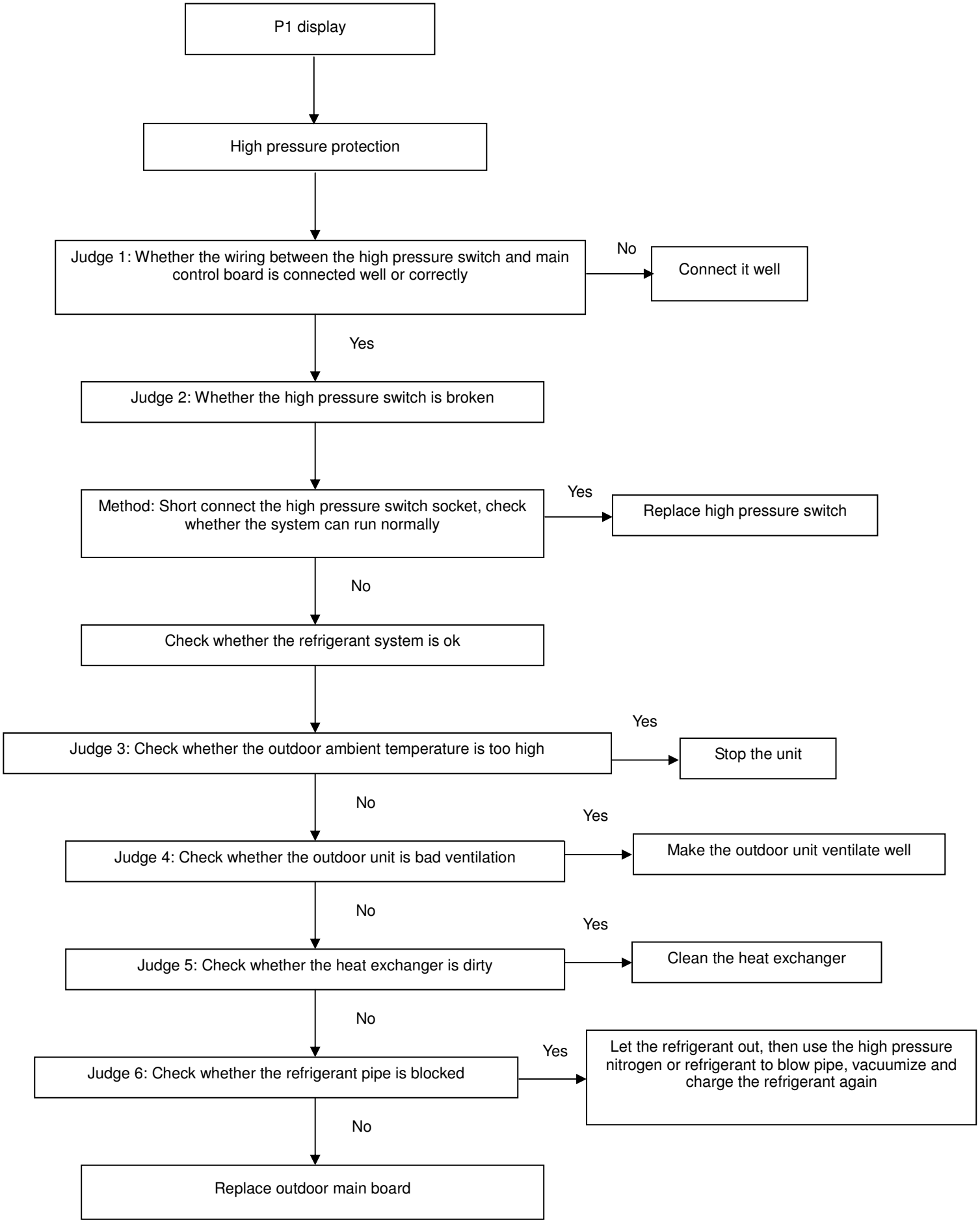
6. E5 malfunction


E5 display
Voltage protection of compressor
Check the voltage of outdoor unit power supply, whether the voltage between L(1) and N is about 172-265V
No
Check the power supply
Yes
Replace the power board, then check whether the system can run normally
Yes
Trouble is solved
No
Replace outdoor main board

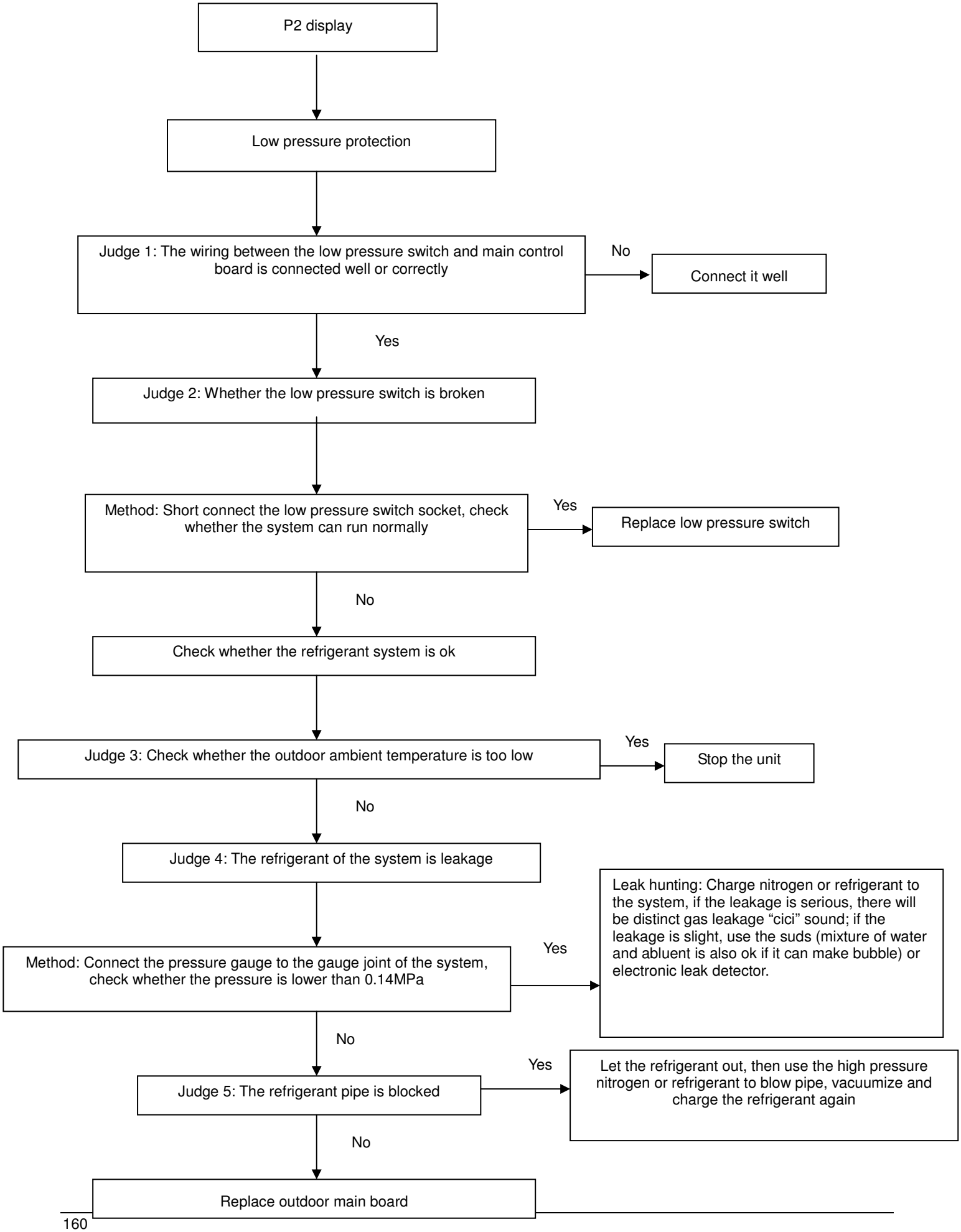
7. E6 malfunction (Only for 30K, 36K & 48K with 1 phase)


E6 display
PFC module protection
Check whether the connecting line between main board and the PFC module is connected tightly
No
Connect it tightly, check normal or not
No
Yes
Check whether the voltage between P and N of IPM module is 380-390V
Yes
Replace the outdoor main board
No
Replace the PFC module

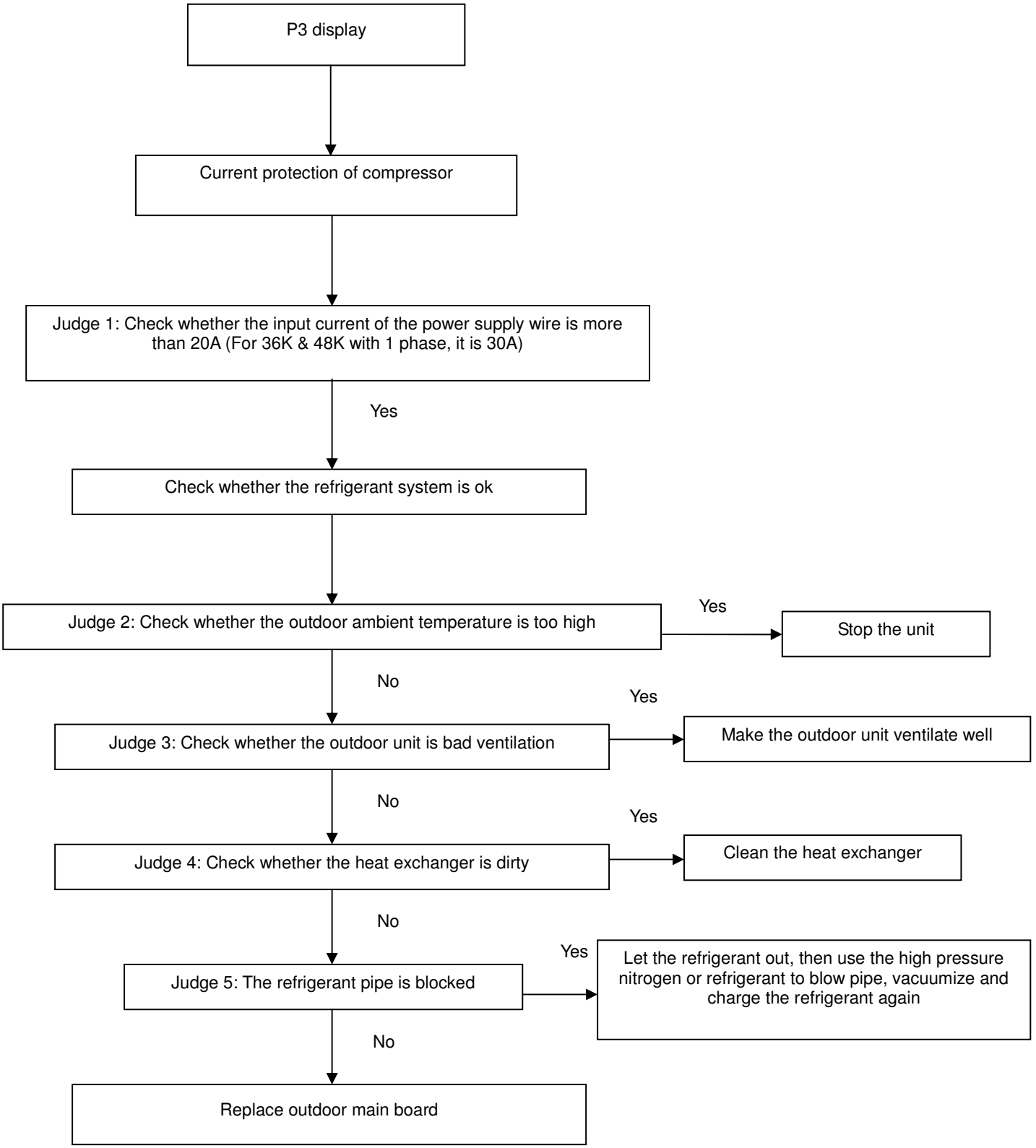
8. P1 malfunction


P1 display
High pressure protection
Judge 1: Whether the wiring between the high pressure switch and main control board is connected well or correctly
No
Connect it well
Yes
Judge 2: Whether the high pressure switch is broken
Method: Short connect the high pressure switch socket, check whether the system can run normally
Yes
Replace high pressure switch
No
Check whether the refrigerant system is ok
Judge 3: Check whether the outdoor ambient temperature is too high
Yes
Stop the unit
No
Judge 4: Check whether the outdoor unit is bad ventilation
Yes
Make the outdoor unit ventilate well
No
Judge 5: Check whether the heat exchanger is dirty
Yes
Clean the heat exchanger
No
Judge 6: Check whether the refrigerant pipe is blocked
Yes
Let the refrigerant out, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and charge the refrigerant again
No
Replace outdoor main board

9. P2 malfunction

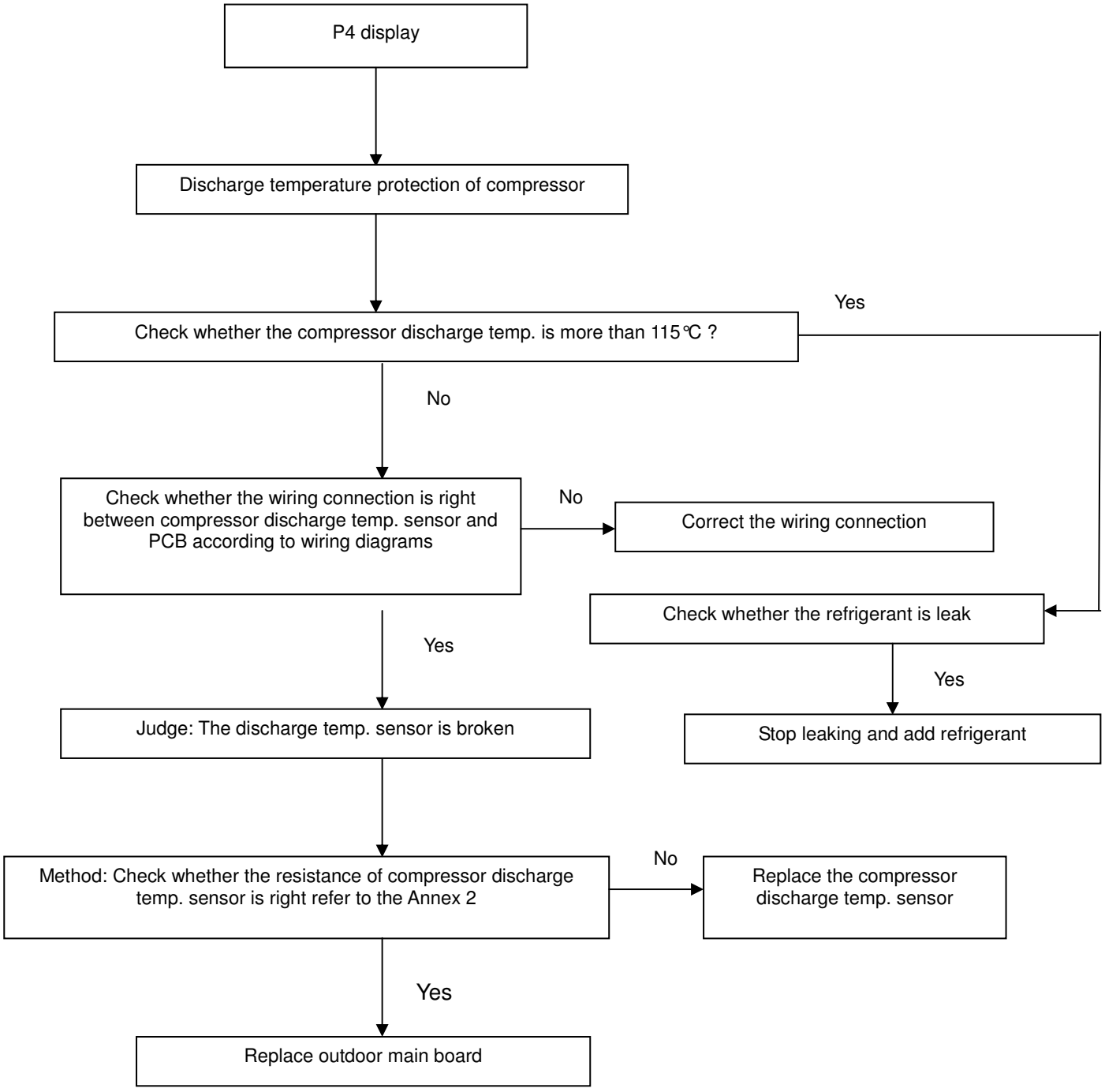

P2 display
Low pressure protection
Judge 1: The wiring between the low pressure switch and main control board is connected well or correctly
No
Connect it well
Yes
Judge 2: Whether the low pressure switch is broken
Method: Short connect the low pressure switch socket, check whether the system can run normally
Yes
Replace low pressure switch
No
Check whether the refrigerant system is ok
Judge 3: Check whether the outdoor ambient temperature is too low
Yes
Stop the unit
No
Judge 4: The refrigerant of the system is leakage
Leak hunting: Charge nitrogen or refrigerant to the system, if the leakage is serious, there will be distinct gas leakage “cici” sound; if the leakage is slight, use the suds (mixture of water and abluent is also ok if it can make bubble) or electronic leak detector.
Method: Connect the pressure gauge to the gauge joint of the system, check whether the pressure is lower than 0.14MPa
Yes
No
Judge 5: The refrigerant pipe is blocked
Yes
Let the refrigerant out, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and charge the refrigerant again
No
Replace outdoor main board

10. P3 malfunction


P3 display
Current protection of compressor
Judge 1: Check whether the input current of the power supply wire is more than 20A (For 36K & 48K with 1 phase, it is 30A)
Yes
Check whether the refrigerant system is ok
Judge 2: Check whether the outdoor ambient temperature is too high
Yes
Stop the unit
No
Judge 3: Check whether the outdoor unit is bad ventilation
Yes
Make the outdoor unit ventilate well
No
Judge 4: Check whether the heat exchanger is dirty
Yes
Clean the heat exchanger
No
Judge 5: The refrigerant pipe is blocked
Yes
Let the refrigerant out, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and charge the refrigerant again
No
Replace outdoor main board

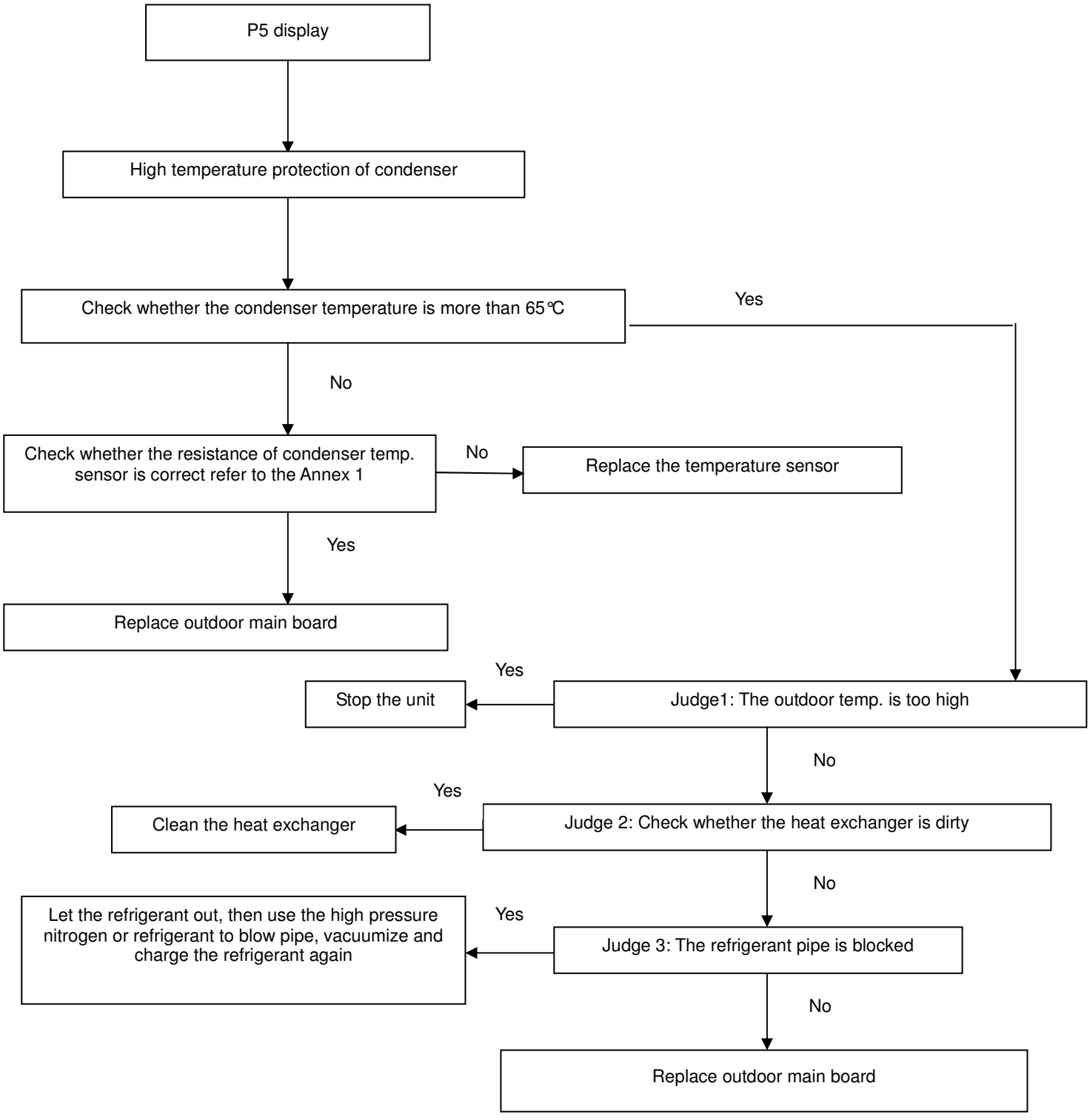
11. P4 malfunction

When compressor discharge temperature is higher than 115℃, the unit will stop, and unit runs again when compressor discharge temperature is lower than 90℃.

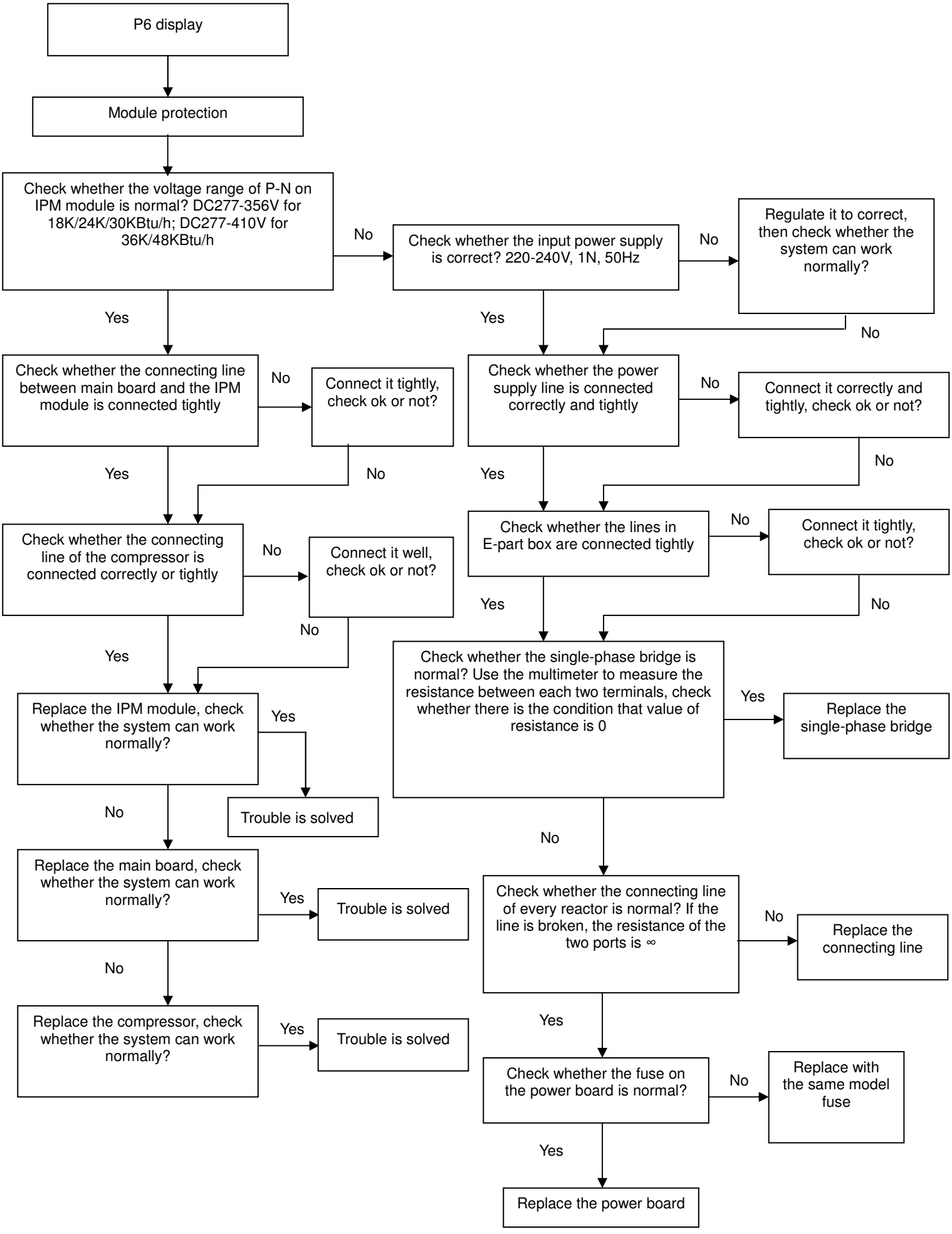

P4 display
Discharge temperature protection of compressor
Check whether the compressor discharge temp. is more than 115℃ ?
Yes
No
Check whether the wiring connection is right between compressor discharge temp. sensor and PCB according to wiring diagrams
No
Correct the wiring connection
Check whether the refrigerant is leak
Yes
Yes
Judge: The discharge temp. sensor is broken
Stop leaking and add refrigerant
Method: Check whether the resistance of compressor discharge temp. sensor is right refer to the Annex 2
No
Replace the compressor discharge temp. sensor
Yes
Replace outdoor main board

12. P5 malfunction

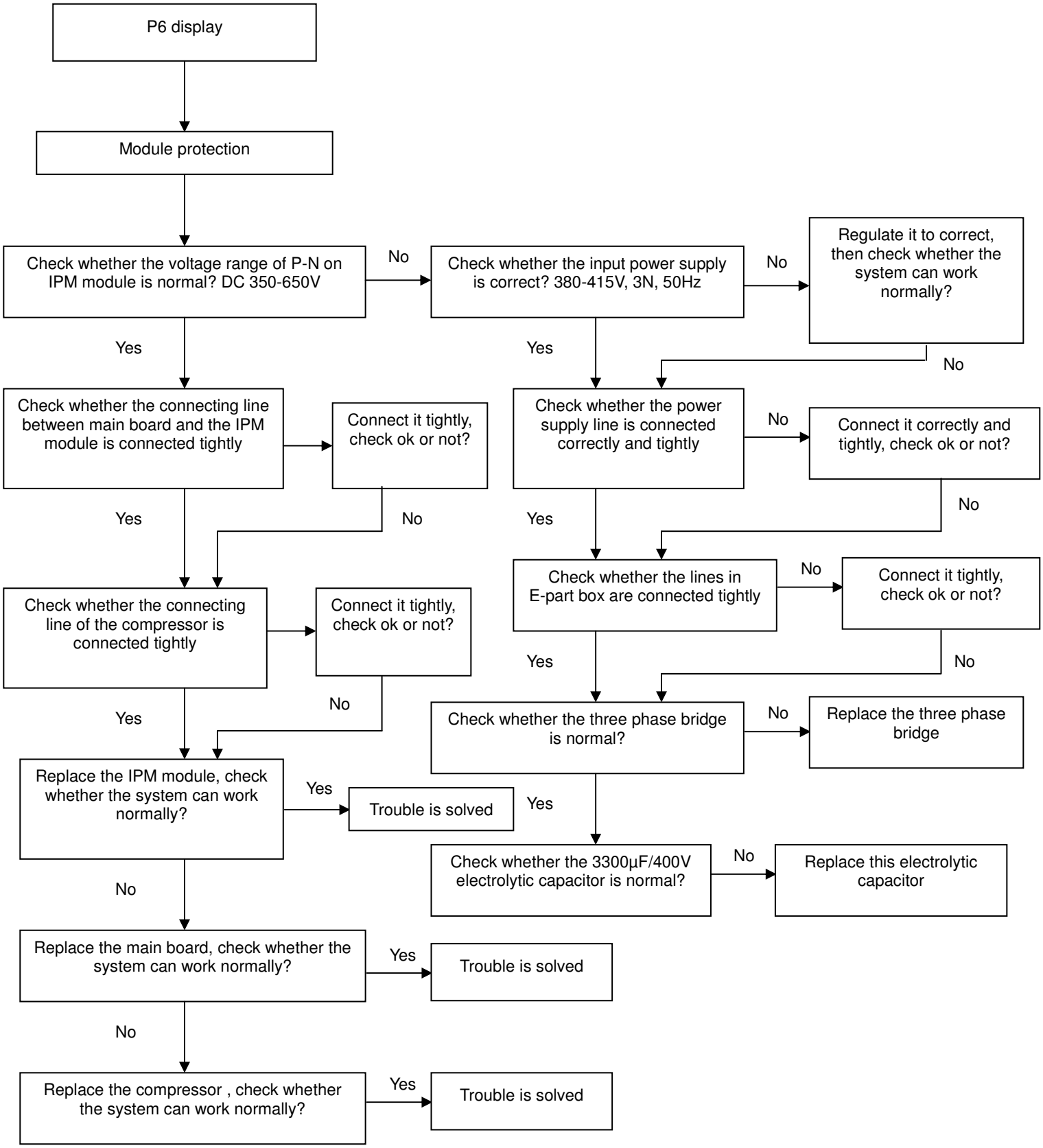
When condenser high temp. is more than 65℃, the unit will stop, and unit runs again when outdoor pipe temp. less than 52℃.


P5 display
High temperature protection of condenser
Check whether the condenser temperature is more than 65℃
Yes
No
Check whether the resistance of condenser temp. sensor is correct refer to the Annex 1
No
Replace the temperature sensor
Yes
Replace outdoor main board
Yes
Stop the unit
Judge1: The outdoor temp. is too high
No
Yes
Clean the heat exchanger
Judge 2: Check whether the heat exchanger is dirty
No
Let the refrigerant out, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and charge the refrigerant again
Yes
Judge 3: The refrigerant pipe is blocked
No
Replace outdoor main board

13. P6 malfunction (For single phase units)


P6 display
Module protection
Check whether the voltage range of P-N on IPM module is normal? DC277-356V for 18K/24K/30KBtu/h; DC277-410V for 36K/48KBtu/h
No
Check whether the input power supply is correct? 220-240V, 1N, 50Hz
No
Regulate it to correct, then check whether the system can work normally?
Yes
Yes
No
Check whether the connecting line between main board and the IPM module is connected tightly
No
Connect it tightly, check ok or not?
Check whether the power supply line is connected correctly and tightly
No
Connect it correctly and tightly, check ok or not?
Yes
No
Yes
No
Check whether the connecting line of the compressor is connected correctly or tightly
No
Connect it well, check ok or not?
Check whether the lines in E-part box are connected tightly
No
Connect it tightly, check ok or not?
No
Yes
No
Yes
Check whether the single-phase bridge is normal? Use the multimeter to measure the resistance between each two terminals, check whether there is the condition that value of resistance is 0
Yes
Replace the single-phase bridge
Replace the IPM module, check whether the system can work normally?
Yes
Trouble is solved
No
No
Replace the main board, check whether the system can work normally?
Yes
Trouble is solved
Check whether the connecting line of every reactor is normal? If the line is broken, the resistance of the two ports is ∞
No
Replace the connecting line
No
Yes
Replace the compressor, check whether the system can work normally?
Yes
Trouble is solved
Check whether the fuse on the power board is normal?
No
Replace with the same model fuse
Yes
Replace the power board

14. P6 malfunction (For three phases units)


P6 display
Module protection
Check whether the voltage range of P-N on IPM module is normal? DC 350-650V
No
Check whether the input power supply is correct? 380-415V, 3N, 50Hz
No
Regulate it to correct, then check whether the system can work normally?
Yes
Yes
No
Check whether the connecting line between main board and the IPM module is connected tightly
Connect it tightly, check ok or not?
Check whether the power supply line is connected correctly and tightly
No
Connect it correctly and tightly, check ok or not?
Yes
No
Yes
No
Check whether the connecting line of the compressor is connected tightly
Connect it tightly, check ok or not?
Check whether the lines in E-part box are connected tightly
No
Connect it tightly, check ok or not?
Yes
No
No
Yes
Check whether the three phase bridge is normal?
No
Replace the three phase bridge
Replace the IPM module, check whether the system can work normally?
Yes
Trouble is solved
Yes
Check whether the 3300μF/400V electrolytic capacitor is normal?
No
Replace this electrolytic capacitor
No
Replace the main board, check whether the system can work normally?
Yes
Trouble is solved
No
Replace the compressor , check whether the system can work normally?
Yes
Trouble is solved